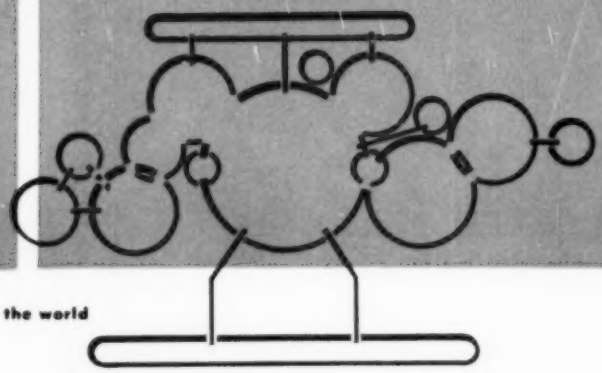
PROGRESSIVE ARCHITECTURE

pa

airport terminal buildings



5

may 1953

largest architectural circulation in the world

WHAT? You mean MILCOR* Steel Access Doors can be installed for less than wooden doors?
MILCOR MIKE
You bet! And maintenance costs are lower, too!

No special framing to build! Milcor Access Doors require no special framing, no cutting or fitting. Three types available for use with plaster, masonry or wallboard.

One finish coat usually covers! Milcor Access Doors are furnished painted with rust-inhibitive gray primer. No sanding or filler coats needed.

Good for the life of the building! Made of steel, Milcor Access Doors cannot warp, crack, shrink, swell, or rot. Termite-proof and fire safe.

Gives fast, convenient service entry! Exclusive spring hinge lets door open 175°. Door may be quickly removed by extracting hinge pin. Number of hinges and cam locks determined by size of door.

Milcor Access Doors conform to modern design requirements. They install flush with wall or ceiling surface, almost invisible — yet there, for instant access to key service points in plumbing, heating, electrical, and refrigeration systems. Finishing is simple — paint or paper right over the doors.

For complete details on Milcor Access Doors and other Milcor steel building products, see the Milcor Manual in Sweet's — or write us for a copy.

▲ 11 different sizes, from 8" x 8" to 24" x 36" — ready to install in plaster or non-plaster walls. With or without expanded metal flanges.

INLAND STEEL PRODUCTS COMPANY

4109 WEST BURNHAM STREET • MILWAUKEE 1, WISCONSIN

BALTIMORE 5, MD. — 5300 Pulaski Highway • BUFFALO 11, N. Y. — 64 Rapin St. • CHICAGO 9, ILL. — 4301 S. Western Avenue Blvd. • CINCINNATI 25, OHIO — 3240 Spring Grove Ave. • CLEVELAND 14, OHIO — 1541 E. 38th St. • DETROIT 2, MICH. — 690 Amsterdam Ave. • KANSAS CITY 41, MO. — P. O. Box 918 • LOS ANGELES 58, CALIF. — 4807 E. 49th St. • NEW YORK 17, N. Y. — 230 Park Ave. • ST. LOUIS 10, MO. — 4215 Clayton Ave.

*Reg. U. S. Pat. Off.

M-125

A leading South Bend manufacturer reports

$59,333 Saved

with Hauserman Movable Walls

With almost three miles of Hauserman *Movable* Walls installed in their main plant and offices since 1932, officials of this large Indiana company* have had ample opportunity to study the long-term advantages afforded by these modern cost-saving partitions.

Based on actual maintenance records, decorating savings *alone* have amounted to $22,625. Whereas their ordinary walls are repainted at regular five-year intervals, Hauserman *Movable* Walls still retain their like-new appearance . . . without repainting . . . *after more than twenty years.*

Like any company, large or small, this manufacturer must occasionally rearrange floor areas. Here, too, Hauserman *Movable* Walls have contributed heavily toward greater efficiency and operating economy. With a minimum of disturbance to normal routine, Hauserman Walls have been taken down, moved and re-erected—quickly and easily—*at a savings* of $36,708 over the cost of moving fixed walls.

That's the story. Doesn't it suggest an idea to you?

*Name on Request

NEW DATA MANUAL 53 . . . most comprehensive collection of facts and technical information on movable interiors ever assembled. This 92-page guide for architects contains complete technical details, stock sizes, general instructions and specifications on *all* types of Hauserman Movable Interiors. Write for your **free** copy today. The E. F. Hauserman Company, 7224 Grant Ave., Cleveland 3, Ohio.

HAUSERMAN®

Movable Interiors

OFFICES • SCHOOLS • LABORATORIES
HOSPITALS • INDUSTRIAL PLANTS

Nature Controls the Heat in these Schools

James Solomon Russell School, Brunswick County, Va. Total square footage — 67,356. Cost — $524,870. Heating Contractors: W. J. Bloomfield & Son, Inc., Farmville, Va.

Dixon & Norman, Virginia architectural firm specializing in schools, specify Webster Moderator Systems for efficient heat in open-plan buildings fed by long steam lines.

"Nature makes the weather, let her operate the controls" — so say Dixon & Norman, Richmond architects and engineers. For comfort and economy, in all of their larger schools, they use centrally controlled, continuous flow steam heating systems.

"Many of our schools are also used for community activities," Dixon & Norman point out. "Classrooms are larger than average and auditoriums, gymnasiums and shop areas are in separate wings. Despite long steam lines, there is balanced heat distribution because the Moderator System delivers heat evenly and rapidly to every section of a building."

For information about Webster Products for school heating, call the Webster Representative or write us.

Address Dept. **PA-5**

WARREN WEBSTER & COMPANY

Camden 5, N. J. Representatives in Principal U. S. Cities

In Canada, Darling Brothers, Limited, Montreal

WEBSTER

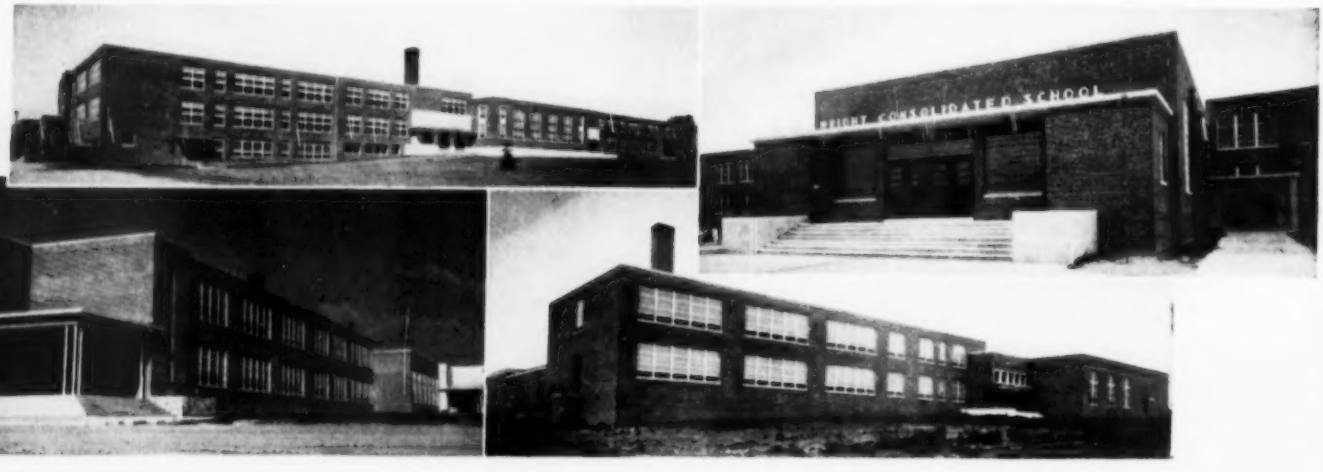
MODERATOR

SYSTEM

OF STEAM HEATING

"Controlled by the weather"

TOP LEFT: Hermitage High School, Richmond. Heating Contractors: W. H. White, Plumbing & Heating, Richmond. TOP RIGHT: John J. Wright School, Spotsylvania County, Va. Heating Contractors: W. J. Bloomfield & Son, Inc. BOTTOM LEFT: Montevideo High School, Montevideo, Va. Heating Contractors: J. H. Cothran Co., Inc., Altavista, Va. BOTTOM RIGHT: Union High School, Caroline County, Va. Heating Contractors: J. H. Cothran Co., Inc.



p/a newsletter

May 1953

A.I.A. is publicizing a business report from its Board of Directors which closely substantiates P/A's forecast in the January issue. Board members report increased activity in almost all regions, with school work the most active building type.

As of early April, removal of price controls had resulted in raises in costs of some building materials, with others about to follow. Brick, gypsum products, wall board, and plumbing supplies had risen; cement manufacturers expected or announced early boosts. Nails, copper piping, plywood, cast-iron soil pipe were rising in price in some areas. Middle-West and Middle-Atlantic areas appear most stable, price-wise; Southwest seems to have strongest pressures for price rises.

Possibilities of end of shooting war in Korea resulted, in April, in drop in stock market; with most manufacturing, engineering, and construction companies engaged in defense work falling off sharply on the market. Probably little construction work actually will stop. Associated General Contractors, meeting in late March, proposed that government agencies handling defense work continue through succeeding period, since contracting organizations are familiar now with "the policies and the personnel of the agencies."

How little of presently budgeted funds for defense construction really can be reduced was indicated by a Navy spokesman at this A.G.C. convention. While all projects not yet under construction or less than 20% completed must be rescreened (by the Secretary of each armed-service Department and by the Secretary of Defense), all but $400 millions out of more than $1800 millions appropriated for Navy public-works construction in last three years, has been put under contract. Any canceled contracts "will be a definite loss to the government because of necessary costs of settlement."

Cornell offers landscape architecture fellowship. Candidates must be graduates of accredited architectural or landscape-architectural school, working to Master's degree. Stipend is $1000. Address applications until June 1 to Dean Thomas W. Mackesey, College of Architecture, Cornell University, Ithaca, N. Y.

Architectural League, New York, announces results of its Gold Medal Program in Architecture. Gold Medal went to Carl Koch & Associates, for Fitchburg, Massachusetts, Youth Library. Silver Medal was awarded to Raymond & Rado, for Readers' Digest Building in Tokyo, Japan; Honorable Mention went to Edward D. Stone & Associates (last year's Gold Medal winner), for Art Center in Fayettesville, Arkansas.

This year, the League gave its first award in Engineering. Gold Medal to Severud-Elstad-Kruger, Engineers, William Henley Deitrick, Architect, and (the late) Matthew Nowicki, Consultant, for North Carolina State Fair Building.

PROGRESSIVE ARCHITECTURE published monthly by REINHOLD PUBLISHING CORPORATION, 330 West 42nd Street, New York 36 N. Y. Ralph W. Reinhold, Chairman of the Board; Philip H. Hubbard, President and Treasurer; Fred P. Peters, Vice President and Secretary; Gilbert E. Cochran, H. Burton Lowe, Merald F. Lue, William P. Winsor, Vice Presidents; Kathleen Starke, Assistant Treasurer. Executive and Editorial offices: 330 W. 42nd St., New York 36, N. Y. Subscriptions payable in advance. Subscription prices to those who, by title, are architects, engineers, specification writers, designers, or draftsmen, and to government departments, trade associations, members of the armed forces, college libraries, students, publishers, advertisers, prospective advertisers and their employees—$4.00 for one year, $6.00 for two years, $8.00 for three years. Above prices are applicable in U. S., U. S. Possessions and Canada. Latin America and Philippine Republic—$10.00 for one year, $16.00 for two years, $20.00 for three years. All other foreign subscriptions—$15.00 for one year, $25.00 for two years, $30.00 for three years. Single copy—$1.00. Printed by Publishers Printing Co., New York, N. Y. Copyright 1953, Reinhold Publishing Corp. Trade Mark Reg. All rights reserved. Re-entered as Second Class Matter September 21, 1951, at the Post Office at New York, N. Y., under the Act of March 3, 1879. Volume XXXIV, No. 4, May 1953. In Art Index.

newsletter

Rome Prize Fellowships in Architecture went this year to Robert L. Myers, North Carolinian, who studied at Harvard and is now with The Architects' Collaborative of Cambridge, Massachusetts; and to Warren A. Peterson, New Yorker, who is a Yale graduate, at present doing graduate work there.

Store Modernization Institute has dropped plans for a competition this year: will pick them up for next year's Show. Instead, Director John W. H. Evans invites all architects to submit photos and plans of their best store job for the last five years, for exhibit to be titled, "My Best Store." Send no more than two 30"x40" mounts prepaid to Evans, 20 E. 55 St., New York, N. Y., before June 1.

Active San Francisco section of Women's Architectural League has concluded a successful four-session program for the public on "Let's Build a House" theme, with discussion among participants—an architect, client, banker, realtor, contractor, decorator, and landscape architect. Tickets were sold for the series, proceeds going to architectural scholarships and library funds.

Columbia announces its study tour to selected urban areas in Europe, for nine weeks starting June 15. J. Marshall Miller will be director. Cost is $1295 for all expenses, plus tuition at $25 a point.

A.I.A. Convention plans for Seattle in June are now jelling. Large turnout is again expected. Technical theme, appropriately, will be use of wood. Gold Medal will go to William Adams Delano, New York architect (Delano & Aldrich); Fine Arts Medal to Donald Hord, California sculptor; Craftsmanship Medal to Emil Frei, St. Louis artist known for his liturgical work. (See September 1951 P/A).

Major activities of Housing Research Foundation of Southwest Research Institute have been dropped, with Revere (original sponsor), Crane, Owens-Corning Fiberglas no longer contributing funds. Foundation will continue as advisory service and will review and analyze development projects, with Architectural Board of Review working with John Hancock Callender, remaining as Architectural Consultant.

Progress report on slum clearance and urban redevelopment activities under Title I of Housing Act of 1949 shows that public housing plays small part in this program. Projects under way now total 116, with 175 additional approved. Housing will be principal land reuse, but most of it is planned as private development; public housing is predominant in only one and subordinate in five others. Industrial, commercial, and public-use redevelopment follow in that order in other projects.

Areas being cleared for redevelopment are mostly built-up slum areas; only six projects are on areas now built-up, nonresidential in character, and five are on predominantly open land.

Two States—Georgia and Florida—have declared local urban-redevelopment enabling acts unconstitutional; use of eminent domain, to acquire property to be turned over to private use, is out in those States. Supreme courts of four—Arkansas, Illinois, Ohio and Rhode Island—have rendered favorable decisions. Test cases are pending in Oregon and Virginia.

INSULATED METAL WALLS

for INDUSTRIAL and COMMERCIAL BUILDINGS

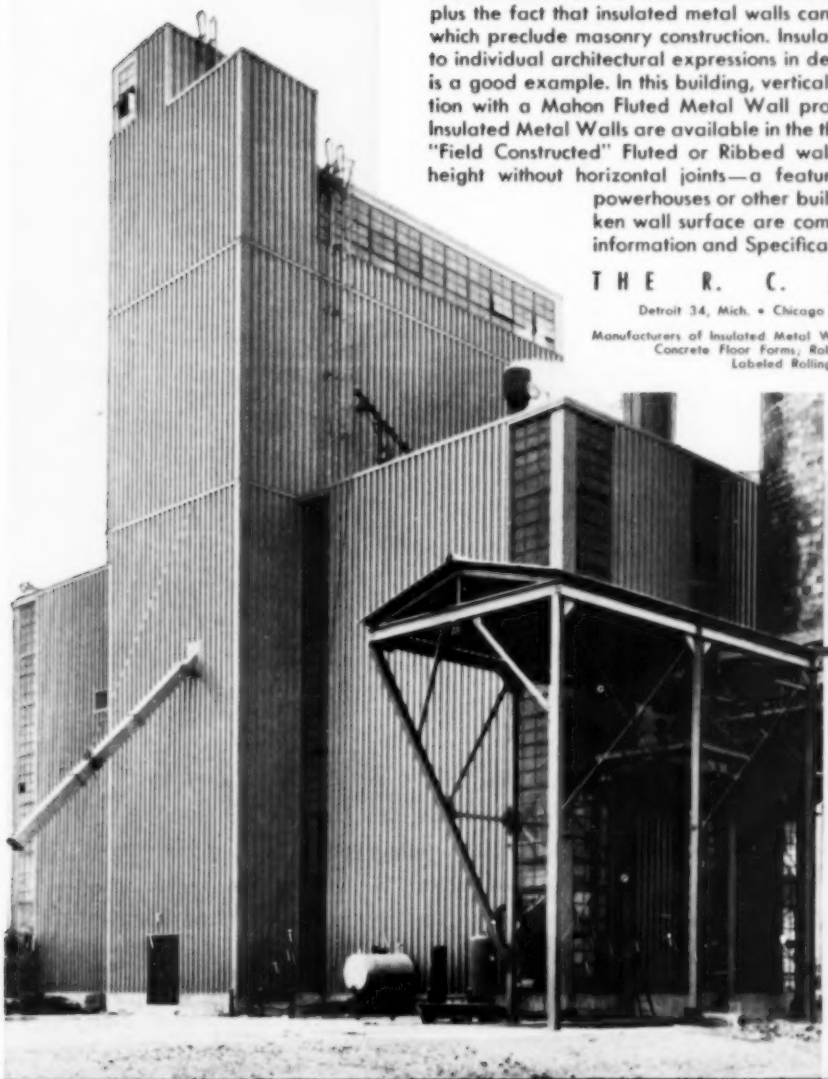
ALUMINUM, STAINLESS or GALVANIZED STEEL

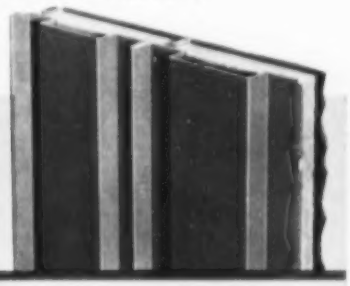
More and more architects are turning to insulated metal walls for industrial plants, powerhouses and other types of industrial and commercial buildings where this modern wall construction offers certain definite advantages. These advantages include: Lower cost in both material and labor, reduction in construction time—plus the fact that insulated metal walls can be erected under weather conditions which preclude masonry construction. Insulated Metal Walls also lend themselves to individual architectural expressions in design—the powerhouse illustrated here is a good example. In this building, vertical panels of continuous sash in combination with a Mahon Fluted Metal Wall produces a striking appearance. Mahon Insulated Metal Walls are available in the three patterns shown below. The Mahon "Field Constructed" Fluted or Ribbed wall can be erected up to sixty feet in height without horizontal joints—a feature which is particularly desirable in powerhouses or other buildings where high expanses of unbroken wall surface are common. See Sweet's Files for complete information and Specifications, or write for Catalog No. B-53-B.

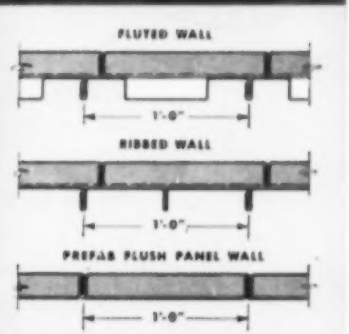
THE R. C. MAHON COMPANY

Detroit 34, Mich. • Chicago 4, Ill. • Representatives in All Principal Cities

Manufacturers of Insulated Metal Walls; Steel Deck for Roofs, Partitions and Permanent Concrete Floor Forms; Rolling Steel Doors, Grilles and Underwriters' Labeled Rolling Steel Doors and Fire Shutters.



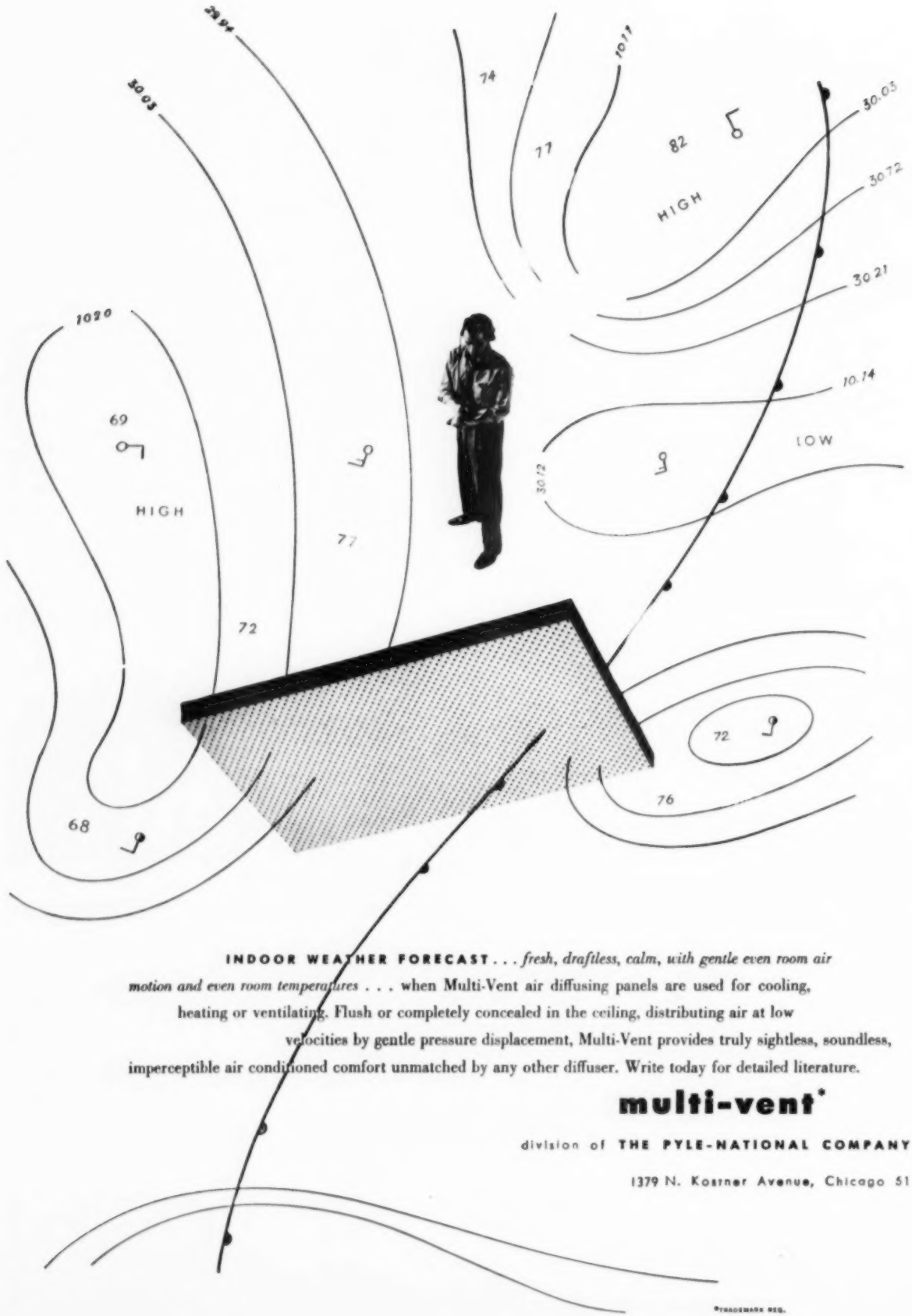




The Over-all "U" Factor of the various Types of Mahon Insulated Metal Walls is Equivalent to or Better than a Conventional sixteen inch Masonry Wall.

In the Powerhouse above, the Insulated Metal Walls up to the first eave line are constructed without a horizontal joint. Continuous Exterior Wall Plates 36'-10" long were employed in these wall areas.

MAHON



INDOOR WEATHER FORECAST . . . *fresh, draftless, calm, with gentle even room air motion and even room temperatures* . . . when Multi-Vent air diffusing panels are used for cooling, heating or ventilating. Flush or completely concealed in the ceiling, distributing air at low velocities by gentle pressure displacement, Multi-Vent provides truly sightless, soundless, imperceptible air conditioned comfort unmatched by any other diffuser. Write today for detailed literature.

multi-vent®

division of **THE PYLE-NATIONAL COMPANY**

1379 N. Kostner Avenue, Chicago 51

®TRADEMARK REG.

PROGRESSIVE ARCHITECTURE

May 1953

3 Newsletter

9 Views

15 Progress Preview: **International Express Air Terminal, Alaska**

69 Twentieth Century Building Type: Airport Terminal Buildings

programming

72 Community Needs

73 Air Traffic

74 The Carrier

74 Economics

76 Terminal Building Space

78 The Site

82 Terminology

83 Current Projects

circulation

87 Basic Airport Types

90 Aircraft

91 Passengers

94 Baggage

96 Small Airport Terminal
William W. Freeman, Architect

98 Medium Airport Terminal
A. Hayes Town, Architect

101 International Airport Terminal
Nicolas R. Arroyo & Gabriela M. de Arroyo, Architects

106 Auxiliary Facilities

109 Hangar Design

116 Office Practice: **The Airport Commission**

118 The Future of Airport Design

120 Proposal for a Private Airport
Charles M. Goodman, Architect

122 Products

124 Manufacturers' Literature

interior design data

129 Airport Waiting Areas by Page Beauchamp

130 **Kanawha County Airport:** Tucker & Silling, Architects

132 **Airport Terminal Building:** Robert R. Jones, Architect

134 **St. Joseph County Airport:** Roy A. Worden, Architect

137 Interior Design Products

selected details

143 **House:** Bar

145 **House:** Stairway

147 **It's the Law** by Bernard Tomson

149 **Out of School** by Carl Feiss

164 Reviews

206 Jobs and Men

232 Advertisers' Directory

234 P.S.

Editorial Staff

Thomas H. Creighton
Editor

Charles Magruder
Managing Editor

George A. Sanderson
Feature Editor

Burton H. Holmes
Technical Editor

Robert Felson
Associate Editor

Valerie Butta
Marianne Gutman
Barbara Lunsford
Erika Sattler
Madeleine Cantor
Anne Fallucchi
Assistant Editors

Stamo Papadaki
Art Director

Elmer A. Bennett
Hall H. Graves
Drafting

Page Beauchamp
Interior Design Consultant

Executive & Business Staff

Philip H. Hubbard
Acting Publisher

Brad Wilkin
Assistant Publisher

Frank J. Armeit
Production Manager

John N. Carlin
Circulation Manager

John Y. Cunningham
Promotion Manager

Jean M. Petrick
Associate Promotion Manager

E. N. Jones, Designer and Builder

STONE

Here's an honest building material, completely trustworthy and permanent. Stone is equally adaptable for secure traditional or experimental modern. It adds color, texture and beauty wherever it is used. The architect's finest efforts, the owner's fondest aspirations will reach complete fulfillment in its use. A Catalog of Stone is now in preparation and will be made available for professional use at no cost. Write:

STONE COUNCIL

A DEPARTMENT OF THE INTERNATIONAL CUT STONE CONTRACTORS' AND QUARRYMEN'S ASSOCIATION

5351 Winthrop Avenue, Indianapolis, Indiana

four score and ten

A festive meeting was held in April at the University of Syracuse, New York, to celebrate the 90th birthday of Henry Van de Velde, Dean of Modern Design Education. The subjects of the speeches at this celebration, arranged by Antonin and Charlotta Heythum, were: "Henry Van de Velde's contribution to Design Education" and "Function of Ornament as Seen by Henry Van de Velde."

Below we are happy to print an appreciation sent to P/A by Alfred Roth, distinguished Swiss architect.

Born in Antwerp, Henry Van de Velde, the world-famous Belgian architect and creator of new forms, celebrated his 90th birthday on April 3 of this year in good health and in full possession of his faculties.

Van de Velde, who has been living in Oberaegerie, near Zug (Switzerland) since 1947, has led the way in those modern developments which have liberated art from academic dogmatism. He was one of the early pioneers who opened the door to rational, artistic creation when, at the turn of the century, he abandoned painting for architecture and the applied arts. As a creative designer and architect, as a teacher when he was in Weimar and Brussels, and as the guiding force of the Werkbund movement, he has exercised a decisive influence on the face of 20th Century. The School of Art he founded at Weimar was later to become the cradle of the Bauhaus. He has also acted as a powerful incentive to his contemporaries as a theorist of Art.

Van de Velde's ideas on the rational and ethical roots of the beautiful, on the moral dynamism of beautiful things, have made ensuing generations aware of the profound significance of the artist. Today, as formerly, the advice and judgment of the Master are a source of inspiration for those who are concerned with the creation of form, and his *Memoirs*, to which he is now giving their final shape, will be eagerly awaited as the summing-up of his rich, creative life. This nonagenarian is still working as architect on the extension of the Kroeller-Mueller Rijkmuseum, near Otterlo, one of his creations in the woods of southern Holland. Henry Van de Velde is still in lively contact with progressive artists of the world.

ALFRED ROTH

did you write?

Dear Editor: The NEWSLETTER in January 1953 P/A contained the following statement: Modernists may be in for a tough time in government commissions since Representative Dondero (R., Mich.) who will head House committee controlling public works, has stated his belief that modernism in art is un-American.

I took a few moments out to write to my fellow-State lawmaker and inquire if he felt that telephones, TV, and indoor plumbing were barbaric.

How about you *(Readers)*? Did you write? That issue of P/A very vividly shows our progress in the realms of public works. We have our foot in the door; let's not allow our Gothic-shelled administration to push us out again.

To the *Editors* of P/A: my sincere thanks for your efforts in the compilation of *Design-Techniques 1953* and the Forecast. An excellent job—and a presentation well worth annual production.

Ens. DON DIRKSE, USN
Japan Sea

ready for filing

Dear Editor: I am so glad that you put Bernie Tomson's IT'S THE LAW on a single page, so that with little effort his important informative articles can be filed, without the aggravating paste-up job otherwise required.

I wonder if advertisers will ever recognize the antagonism they engender by aggressively intruding their wares into the midst of our professional fare.

If more architectural magazines took the time to verify this attitude, they would develop the courage to guide their advertisers away from this irritating practice.

Progressive architects depend on P/A to help keep them so. You bring the world to us; yet, to be useful, the material must be quickly and easily separated and filed for ready reference. Please rid us of the torment of filing a page with opposite sides totally unrelated, yet equally desirable.

The September-October, 1952, *Bulletin* of the A.I.A. is a most gratifying example of a publication set-up that makes one feel that "this was done for me."

NATHAN R. GINSBURG
New York, N. Y.

no experimentation—no progress

Dear Editor: The world has now had about 50 years of architectural experimentation. Some mistakes had been made and much more was learned. Today we have the knowledge which would make it simple and relatively economical to heat a Le Corbusier building, such as has been mentioned in the interview by Vlassov, in the arctic regions or to cool it in the tropics. If the windows in the Le Corbusier's building in Moscow have been broken, then obviously there is a choice of stuffing the broken panes with paper, or putting in double glazing with which the Russians are well familiar, or better still, putting in one of several modern heating systems.

My fear is that Soviet architects seek to move forward "to create a new architecture" by having the ship of progress firmly anchored to the past. And we know, of course, that no experimentation means no progress!

In our own country, meanwhile, those of us who persist in experimenting (finding new and better ways of doing things) are being accused by reactionary Senators—of being "leftists" and "communists."

The desire to meet the needs and likings of the people and to pay respect to the past are very laudatory, but people have to be encouraged to learn to be tolerant of at least a modicum of experimentation, for how else can there be progress? I cannot believe that the Soviet people have closed their minds to progress in architecture or in anything else. As to the noble inheritance of the past, I say love it for what it is worth and leave it where it belongs.

The fact that the illustration accompanying the published interview is poor stuff by standards which I respect does not mean that better architecture could not be created under the lofty ideals of Soviet architecture. The people of the Soviet Union are not known historically as possessors of a great architectural tradition. To have a tradition of great building it is necessary to have historic periods of relative prosperity, which the Russians practically never had. When they had it, they invited Italian and

(Continued on page 10)

(Continued from page 9)

French architects to do the work. They have, nevertheless, excelled in music and literature. What makes people produce genius in some fields and not in others would make insteresting study.

But who are we to judge? Is our official architecture any better than that of the Soviets? I doubt it. And how long is it since we have unburdened ourselves of the swaddlings of binding tradition? Frank Lloyd Wright says that the battle for modern has been won in this country. If it has, there is still plenty to be done about it.

I believe the Soviets, and ourselves, are going through an unfortunate emotionalism engendered by fear, real or created by propaganda. If this state of affairs persists, we may see reaction in architecture as we already see it in most of the arts. On the other hand, when this fear dies down on both sides, it would not surprise me to see the Soviets take "modern" to their bosoms—even some of our Senators might then no longer say that modernism is synonymous with communism.

ISADORE ROSENFIELD

PROTEXOL PROTECTS WOOD

NOTE: This is one of a series of advertisements designed to be of service to Architects, Builders and Owners, to establish practical problems in the treatment of lumber to not only meet Building Code requirements, but also to present the availability of pressure treatments designed to overcome the inherent vulnerability of wood, thereby assuring greater value wherever wood is used.

PROBLEM:

To employ low cost species of lumber, but to increase life span through elimination of decay and insect attack. Further, to assure a non-oily (clean) product.

EXAMPLE:

Roof bumper guards for East Side Airlines Terminal Garage, New York, N. Y. Architect, John B. Peterkin, New York City. Contractors, S. S. Silberblatt, Inc., New York City.

SOLUTION:

Douglas Fir found to be most economical species. Increased life, permanency of treatment and cleanliness were found to be available through the use of PENTASOTE.

PENTASOTE

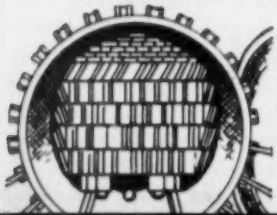
PRESSURE-TREATED WOOD

To assure equally dependable results, the following specification is suggested:

SPECIFICATION: (A.I.A. File 19-A-3)

PROTEXOL PENTASOTE . . . Decay and insect resistant.

All lumber or plywood, after working or framing to its closest final dimension, shall receive a pressure treatment (Empty Cell) of PENTASOTE in compliance with Standard C1-51 and C2-51 of the American Wood Preservers' Association, to a net retention of 6 lbs. (8 or 10 lbs.) per cubic foot.



Preservative to be in strict conformance with P8-51 and P9-52 (Pentachlorophenol) of A.W.P.A. or Federal Specification TT-W-570 and TT-W-571c.

Flash steaming and final vacuum after treatment shall be accomplished to assure a reasonably dry, clean product.

See us in Sweet's — or contact our nearest office

PROTEXOL CORPORATION

76 MARKET STREET KENILWORTH, N. J.

NEW YORK CHICAGO

ST. LOUIS SAN FRANCISCO LOS ANGELES

greatness, not pastiche

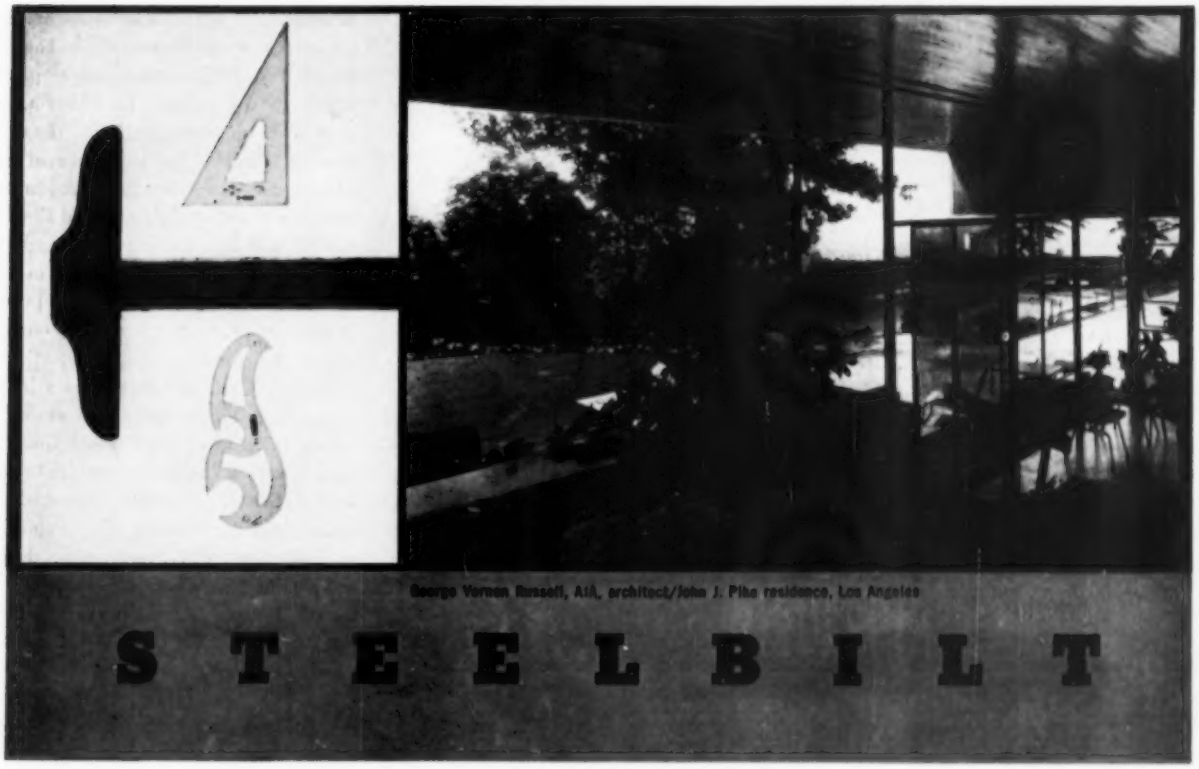
Dear Editor: Russian Architect Vlassov's generalities and cliches are truly impressive. But I agree with you that the three points raised by him against Western architecture are worth our thought and discussion. I would like to confine my comments to Vlassov's accusation "that architecture of the West has ignored the lessons of history."

Admittedly, we have. Since the emergence of a technological concept in architecture, around 1920, reference to historical forms has been taboo. But modern architecture, by ignoring the inherited detail, honored the most profound historical law: that each new architectural epoch receives its meaning and ultimate justification from its truthfulness to contemporary life! In an involuntary slip of self-revelation, Vlassov says: "We can scarcely understand how the Greeks could so well translate architecture into an expression of their times and their society." The reason for this lack of comprehension is that he is an eclectic and the Greeks were not. They could express their ideals (but, by far, not their reality) in buildings, because they dared to create completely original, nonhistorical forms, based on nothing but their own knowledge of materials, skills, calculations, and esthetics. Greek architecture is remembered today because Theron and Ictinus did not use an Egyptian Pylon here and a Persian basrelief there—although the architecture of the Mediterranean cultures was known to them.

Architectural history is a chain of new forms, evolving from old ones, and the value of each link lies with its new contribution. The greatness of the Renais-

(Continued on page 12)

DESIGN WITHOUT RESTRAINT



George Vernon Russell, AIA, architect/John J. Pike residence, Los Angeles

STEELBILT

Steelbilt opened new vistas to designers as well as residents when it introduced steel frames for sliding glass doorwalls.

For 18 years Steelbilt has been solving functional problems to give the architectural designer a free hand in using large areas of glass.

Solid installation, ease of operation and permanent weather seal are accomplished by engineering refinements* concealed within slim sections, cold roll-formed to tolerances of .005".

For the designer whose ideas burst the bonds of stock sizes and models—Steelbilt will deliver a functionally perfect translation of his conception.

Economical stock sizes and models incorporating Steelbilt engineering are also mass produced in its new Gardena plant.

If there is no Steelbilt dealer near you, write for information on specific problems. Literature on Steelbilt frames for horizontal sliding glass doorwalls and windows is available.

See Sweets Architectural File

*patented

STEELBILT, INC.

STEELBILT

GARDENA, CALIFORNIA

(Continued from page 10)

sance is formulated in the astylar simplicity of the Palazzo Pitti, and not in the latter-day pastiche of Inigo Jones' Banqueting Hall; and the English Gothic, from which Vlassov professes to learn, is surely that of Wells and Salisbury, and not that of Pugin.

Contemporary Architecture of the Western World has ignored history because it has been keenly aware that the cliches: "Architecture as expression of the people" and "Architecture as monuments of the past" cancel each other out. If "Soviet architecture is designed to the needs and desires of the people," so, we insist, is our architecture. The difference is that we have come to admit that a Stoa is nothing but a decorative colonnade, without peripatetic democrats discussing Logos in its shadow while multiple slaves keep the home-fires burning; or that "the Italian humanists of the Renaissance" knew absolutely nothing about the requirements of a housing project in Wilkes-Barre or a public school in the Bronx. In addition, we have given up pretending that "the deep roots of folkdom" can be translated into modern structure, after this folkdom has been wiped out by the Industrial Revolution. I still have to detect the slightest trace of Kazakh or Ukrainian in the Woolworth-Gothic-Versailles-Propylaea "Palace of Culture" bestowed on the people of Poland.

For the West, architecture is a living thing, a continuous process of evolution —just as it was for "the old Gothic." High naves collapsed, spires fell, and many cathedrals remained unfinished because planning exceeded all possibilities of realization. But the style developed and matured into a shining link of the historical chain, because it expressed the longing, the vertical expansion, the spontaneous structural instinct of its day. Le Corbusier's architecture, so lamely ridiculed in the interview, was in 1927 in a similar state of experimental development, which was recognized as fruit-bearing by the Soviet leaders who commissioned the Centrosoyus (leaders who are no longer alive today). Vlassov is much older than he thinks in his naive belief in the architectural absolute, that by its final perfection of plan and façade is independent of its surroundings, whether Athens, or Washington, or Moscow. It is likely that here is the only point of understanding between Vlassov and Thomas Jefferson.

Architecture as a monument of the past—the equation in Vlassov's formula —receives its meaning from the definition of architecture for the people. A building can be a monument to the past only if it expresses the living function of that past. Reverence for those on whose shoulders we stand is a constructive and noble feeling, but must it be expressed in no other way than preservation of the architectural expression of their day? It is on this one point that

(Continued on page 98)

SOME IDEAS SHOULD BE SHELVED

. . . AND PROPERLY SO

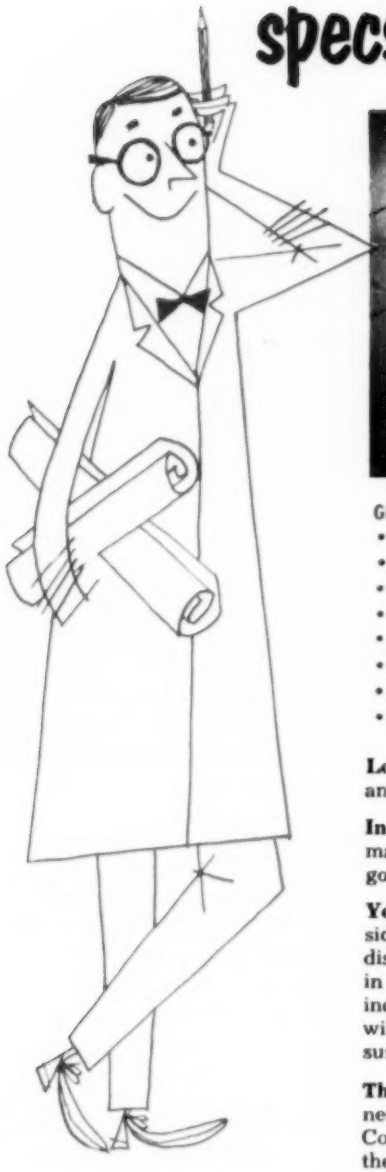
Some people think that library shelving is something a carpenter brings along and nails to the wall. Books are piled in, and that's the end of it. Well, some shelving may be like that, but not Sjöström's *New Life* library shelves! They are definitely *furniture*. Librarians the country over are as proud of their handsome *New Life* shelves as of their modern charging desk. It's the *New Life* design that does it. It allows for many flexible arrangements like the popular alcove layout shown at right. Write for New Life catalog L-50.

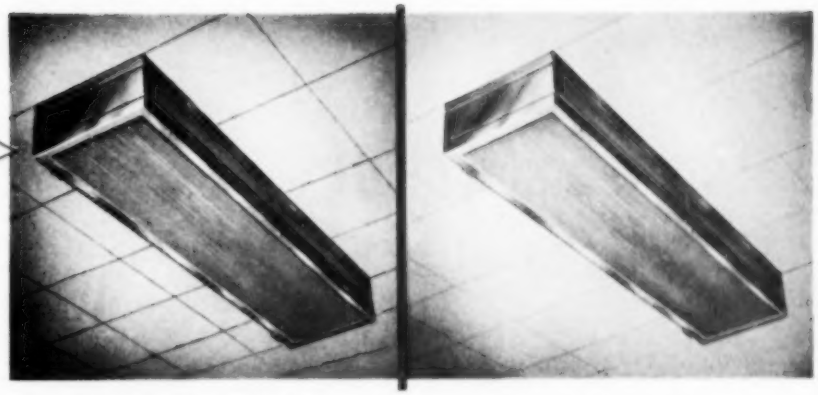
New Life

MODERN LIBRARY FURNITURE by

JOHN E. SJÖSTRÖM COMPANY, 1700 NORTH TENTH STREET, PHILADELPHIA 22, PA.

specs speak loudest...longer





GRUBER SURFACE-LITE, SERIES 210

- 18 gauge CR steel housing
- Arc-welded seams
- Die-formed, rigid construction
- Phosphortized undercoat
- 2 coats—357° baked white enamel with 87% RF
- Captive screws for door latching
- Removable door
- Available for 2, 3 or 4 fluorescent or slimline lamps

Look alike, don't they? But they're not. All you have to do is compare specs . . . and match features to discover the differences.

In the Gruber Surface-lite series 210, three factors are particularly evident: robust materials, painstaking construction and a quality of design that assures enduring good looks and capable performance.

You'll find many exclusive features that distinguish the Surface-lite too. Luminous side panels that erase harsh ceiling contrasts . . . provide widespread, uniform light distribution. Hinged door construction that eliminates light leaks, makes for ease in relamping and maintenance . . . accommodates a wide range of diffusing media including glass and louvers. End pieces that permit continuous row mounting . . . with in-line rigidity. Removable reflectors that provide for stem mounting when suspended fixtures with an upward light component might offer superior lighting.

The specifications and features of the Surface-lite bespeak an insistence on engineered design and quality construction, found throughout the entire line of Gruber Commercial-Institutional fixtures. And no matter what your lighting task may be, there's a Gruber Lighting unit, or combination of units, that will do your job just a little better.

From experience with Gruber products . . . backed by 30 years in the design, development and manufacture of architectural lighting . . . you'll discover why YOU CAN BE DESIGN AND QUALITY SURE WHEN YOU SPECIFY GRUBER.

Surface-lite Installations
By Gruber Lighting

- Kings Daughters Hospital
  Staunton, Va.
  Architect: York & Sawyer
- Manhattanville College
  Purchase, N. Y.
  Architect: Eggers & Higgins
- The Texas Company
  Beacon, N. Y.
  Architect: Voorhees, Walker, Foley & Smith
- Acme Brick Company.
  Fort Worth, Texas
  Architect: Geren, Pelich & Clarkson
- First National Bank of Boston
  Boston, Mass.
  Architect: Hutchins & French

For complete information on the Gruber line of surface mounted fluorescent fixtures, write for 8-page Folio S-5.

GRUBER LIGHTING
125 SOUTH FIRST STREET, BROOKLYN 11, N. Y.

Gentlemen: Please send me your Folio S-5.

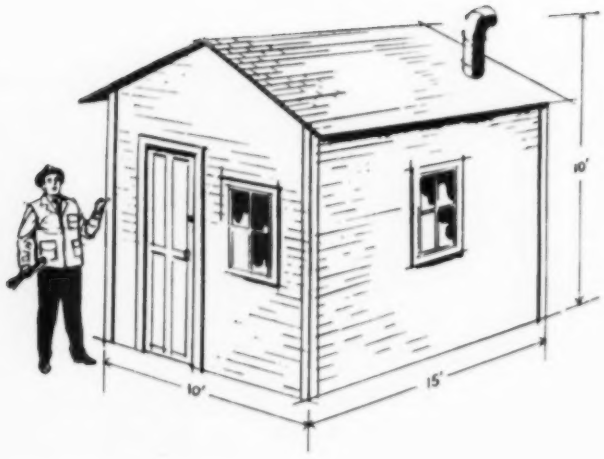
NAME_____ TITLE_____

COMPANY_____

STREET_____

CITY_____ ZONE_____ STATE_____

There's a MILLION square feet of Insulation stored in that 10' x 15' shack!



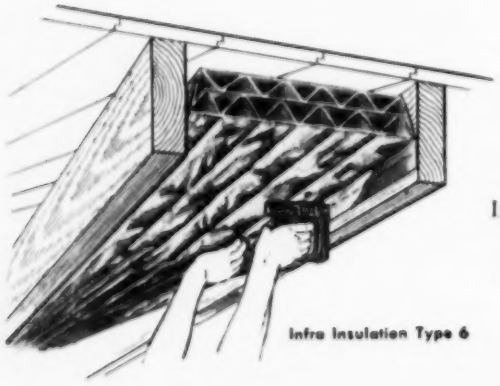
ORDINARY INSULATION WOULD TAKE 140 SUCH SHACKS

Storage problems and waste are drastically reduced for contractors, builders and dealers, both at the building site and on their own premises, when they use multiple accordion aluminum insulation. While 1000 sq. ft. of ordinary insulation sometimes weighs a ton and usually occupies 25 cartons of 175 cu. ft. in all; one standard carton of multiple accordion aluminum, such as Infra Type 4, holds 1,000 sq. ft., weighs 46 lbs., and occupies 1¼ cu. ft. Warehousing, transportation and handling bills are naturally insignificant in comparison.

Multiple accordion aluminum's slight mass, scientific compartmentation, and zero permeability to water vapor are decisive in protecting buildings against destructive condensation. The "warm" side of multiple accordion aluminum insulation, and each component layer almost immediately assumes the temperature of the air in contact. The "cold" side remains a trifle warmer than the air *it* contacts, thereby raising its dew-point. With no dew-point attainable, condensation is prevented.

The light-weight but tough aluminum sheets, and the automatic and permanent compartmentation combine to bar unwanted heat loss or intrusion. The metallic sheets throw back the heat rays at a 97% rate, emit at 3%. Their insignificant mass and the nonconductivity of the air layers prevent conduction flow. The construction has 5 integral barriers to convection.

A popular commercial form of multiple accordion aluminum is Infra Insulation, Type 6. With sufficient practice, a man can install 2,000 sq. ft. a day. The cost of installation, in new construction between wood beams, material with labor, is less than 10¢ sq. ft.


Infra Insulation Type 6

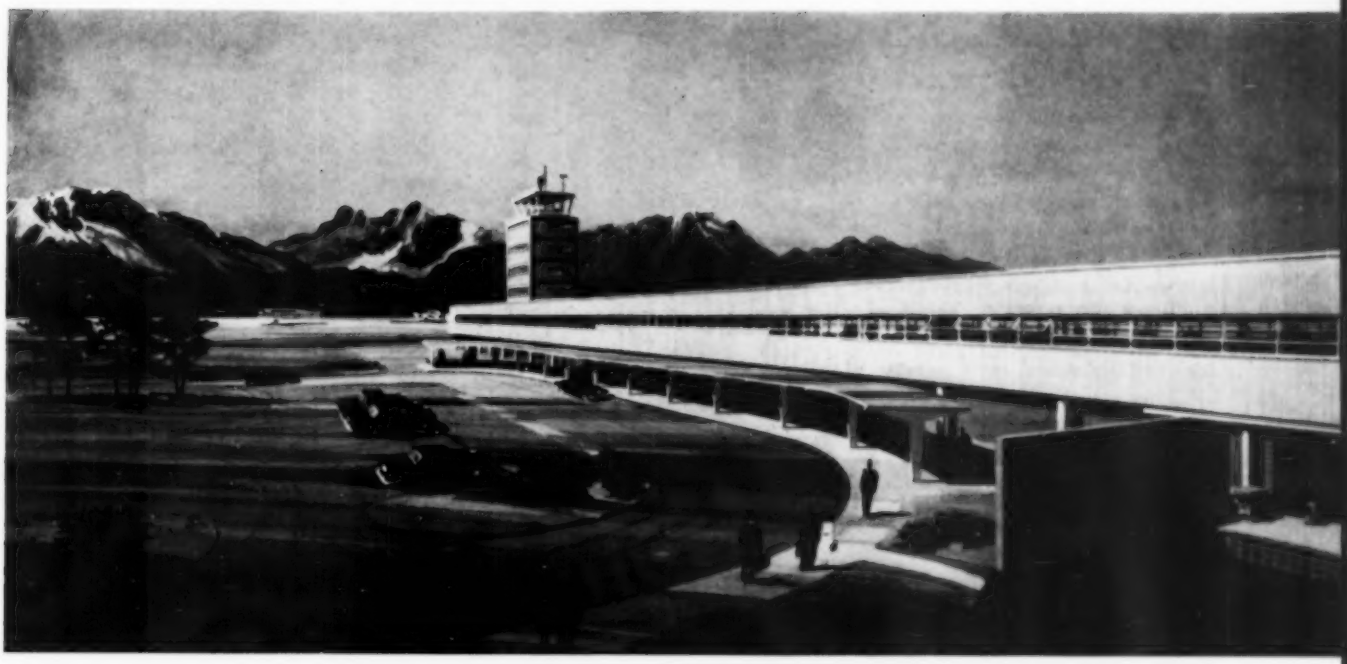
INFRA THERMAL FACTORS. TYPE 6

Up-Heat	**C.089, R 11.23 =**	**4 3/8"**	**dry rockwool**
Wall-Heat	**C.073, R 13.69 =**	**5 5/8"**	**dry rockwool**
Down-Heat	**C.044, R 22.72 =**	**9"**	**dry rockwool**

Infra Insulation, Inc.
525 Broadway,
New York, N. Y.

Infra Insulation, Inc.,
525 Broadway, New York, N. Y., Dept. P-5
Please send me free ☐ Schwartz's "Simplified Physics"; ☐ Infra samples; ☐ Infra prices.
Name_____
Firm_____
Kind of business_____
Address_____

international express air terminal for Alaska



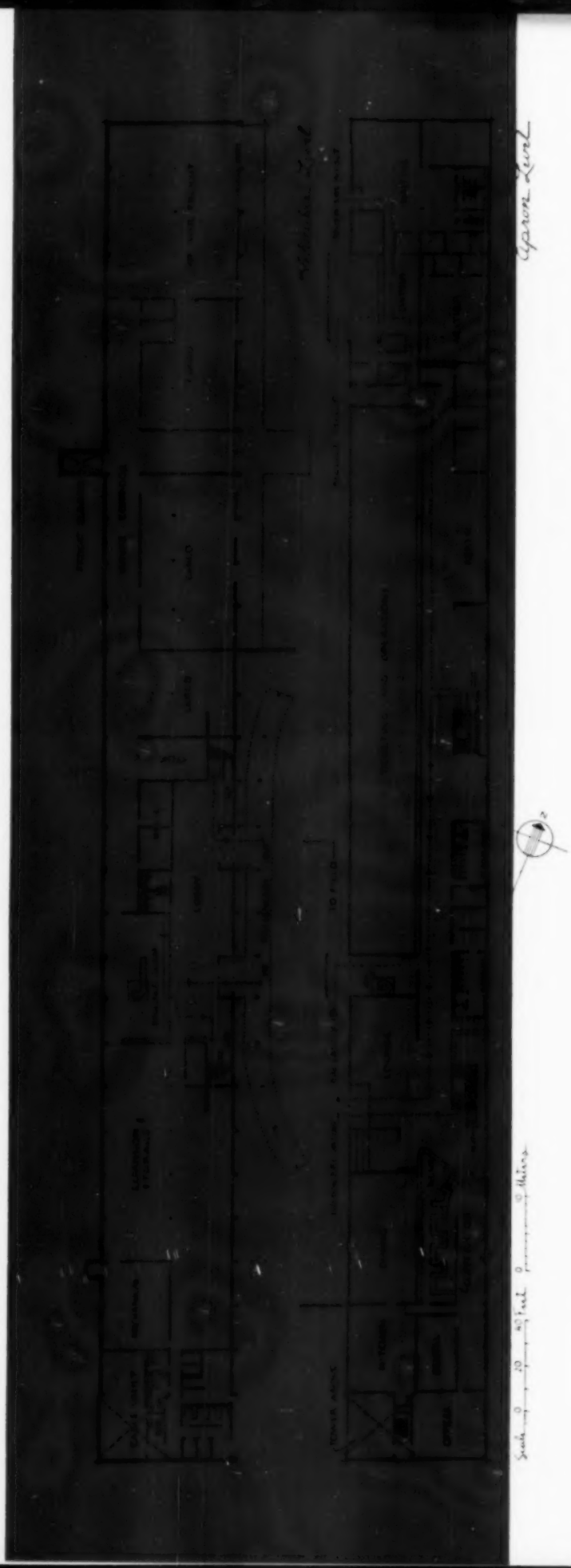
Architectural design of the International Express Air Terminal now nearing completion at Anchorage, Alaska, was based on a site selection that provided vehicular approach to the building a level below the airport apron. The designers, Thomas B. Bourne Associates, Inc., Architects-Engineers, Washington, D. C., and Anchorage, were guided in their analysis of the location by the CAA office in Alaska. Marcel Breuer, New York architect, was Consultant on the design.

As a result, efficiency and economy dictated provision for ticketing and baggage handling on the upper, or field, level. Passengers must get their baggage from the entrance level to the field level themselves, but this inconvenience is to be minimized by installation of escalators. Concentration of these activities on the field level makes it possible for the airlines to handle the operation with a single terminal crew, desk personnel also serving as field operational personnel during off-peak hours.

The entire lower level is thus reserved for utility functions. Passengers go directly to the upper level and concessions are located there—centered on heads of stairs and the future escalators, to guarantee maximum return. As the vertical circulation has been kept on the entrance side, the field side of the upper level is free for lineal expansion of the ticket sales and operational areas, as required by future growth. As the plans indicate *(overpage)* there is no installation on the field side to impede this expansion, or necessitate expensive future alterations. Lavatories, chases, etc., are all on the entrance side.

Structurally, the terminal building is a series of uniform bays of light steel (preferred to masonry because of ease and speed of construction), with curtain walls of insulated-metal panels. Because of the unusually high construction cost in Alaska, so-called luxury finishes were avoided and the architects specified structural elements that would also serve as finish materials. Plaster, stonework, etc., were "out" because craftsmen capable of dealing with these materials are not normally found in the area.

Since approval of the design shown here, various changes have been made. The architects are not supervising construction but have been advised of at least one four-bay addition to the building to accommodate another airline. The basic scheme, however, has been followed.



BURDINE'S
Fort Lauderdale, Florida

Abbott, Merkt & Company—*Architects*
Caldwell-Scott Constr. Co. Inc.—*Builders*

Main facade of brilliant turquoise blue matte architectural terra cotta, 2'4" x 2'4". Four units with "V" rustication make up large panels approximately 5' square.

ANY COLOR UNDER THE SUN!

BIRD BUILDING
CLEVELAND ZOOLOGICAL PARK

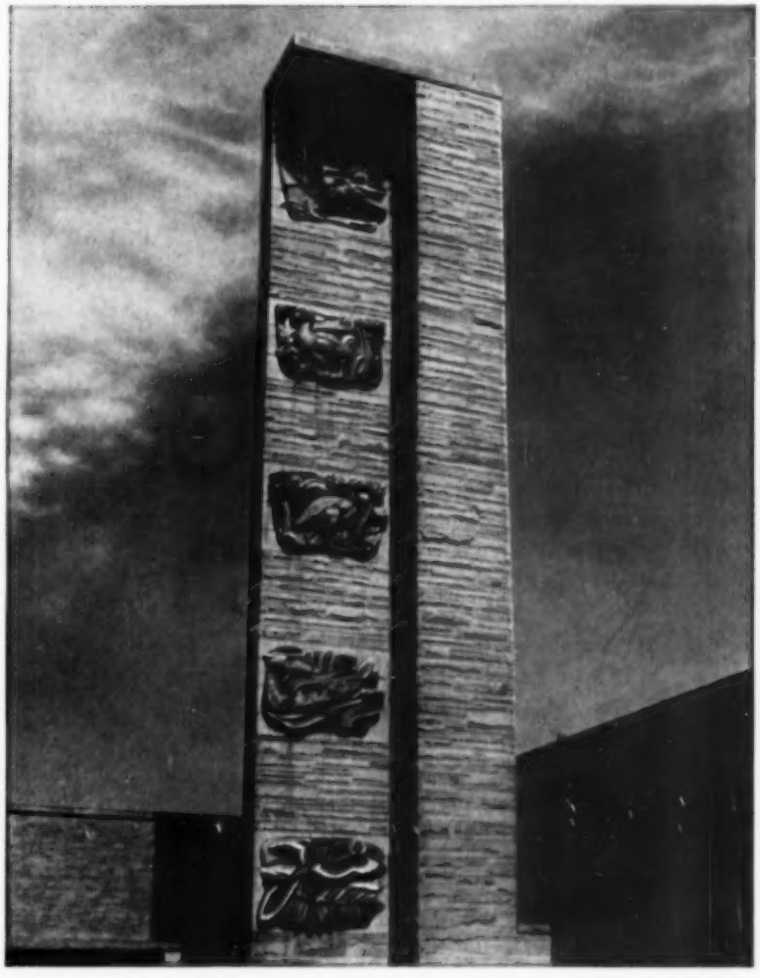
Conrad, Hays, Simpson & Ruth—*Architects*
H. F. Juergens—*Builder*
Viktor Schreckengost—*Sculptor*

Polychrome Architectural Terra Cotta was specified for 29 handsome bird panels. Five large panels are 5' x 8'. Twenty-four smaller panels are 18" x 18".

Give buildings more *life* . . . with architectural terra cotta

There is nothing drab about today's outstanding buildings...that's why you will find Federal Seaboard Terra Cotta specified more often than ever before. For interiors or exteriors, it offers unrivalled versatility—in color, texture and form. It is custom-made in an unlimited range of brilliant colors or delicate tints, in individual units large or small, plain surfaces or decorative sculpture. When you compare quality, appearance, permanence and price, you will agree: No other modern building material offers so much as architectural terra cotta. Moreover, its original richness can be retained indefinitely by simple soap and water washings.

Construction detail, data, color samples, estimates, advice on preliminary sketches, will be furnished promptly without charge on Architectural Terra Cotta and Ceramic Veneer.



F S T C

FEDERAL SEABOARD TERRA COTTA CORPORATION
10 East 40th Street, New York 16, N. Y.
PLANTS AT PERTH AMBOY AND SOUTH AMBOY, N. J.

HERE'S WHY RODDISCRAFT DOORS ARE PREFERRED 2 TO 1 BY ARCHITECTS

We don't advocate using Roddiscraft Solid Core Doors as surfboards, but because of the rugged waterproof construction, we wouldn't worry too much if someone did.

Inside is the solid core — fused under heat and pressure into a single, one-piece unit. It can really absorb abuse.

Next are the crossbandings — waterproof-bonded at right-angles to the core and face. They're the door's muscles — prevent sagging and twisting — give the strength of true plywood construction.

Outside are the face veneers — inseparably bonded to the core with water-proof glue. Standard thickness face veneers are highly resistant to abuse — and to grain raise or checking caused by extremes of temperature and humidity.

Top and bottom rails are double thickness — allow a safe margin for hanging and fitting.

In all installations where a construction of beauty with brawn is needed, specify Roddiscraft Solid Core Flush Doors.

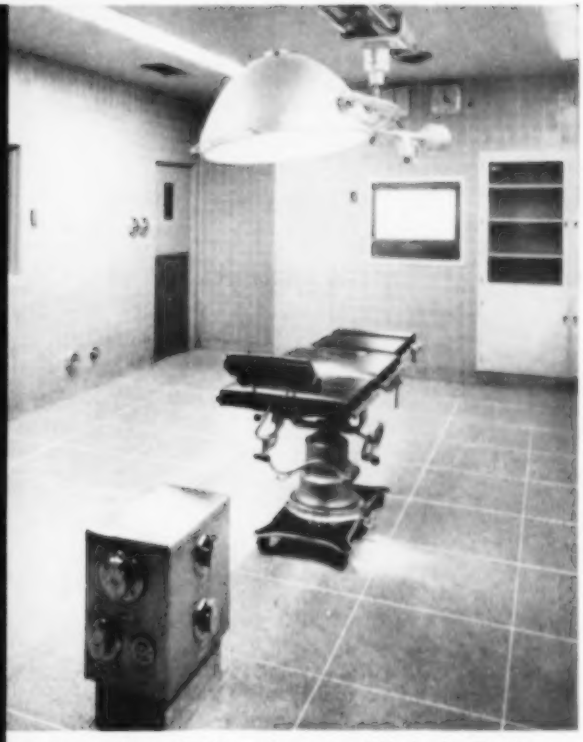
NATIONWIDE **Roddiscraft** WAREHOUSE SERVICE

Cambridge 39, Mass. • Charlotte 6, N. C. • Chicago 32, Ill. Cincinnati 4, Ohio • Cleveland 4, Ohio • Dallas 10, Texas Detroit 14, Mich. • Houston 10, Texas • Kansas City 3, Kan. Los Angeles 58, Calif. • Louisville 10, Ky. • Marshfield, Wis. Miami 38, Fla. • Milwaukee 8, Wis. • New Hyde Park, L. I., N. Y. • New York 55, N. Y. • Port Newark 5, N. J. • Philadelphia 34, Pa. • St. Louis 16, Mo. • San Antonio 6, Texas San Francisco 24, Calif. • San Leandro, Calif.

Roddiscraft
RODDIS PLYWOOD CORPORATION
Marshfield, Wisconsin

TERRAZZO
FOR HOSPITAL OPERATING SUITES

One of the operating rooms in the new Children's Hospital, Washington, D. C.



Operating Suite at new Clinical Center, National Institutes of Health, Bethesda, Md.

Conductive Terrazzo

provides safety, permanence, cleanliness, and easy maintenance

Current thinking favors moderate *overall* conductivity for hospital floors in anesthetizing locations. The proper addition of acetylene carbon black to Portland Cement TERRAZZO, in accordance with U. S. Public Health Service specifications, meets all safety requirements of the National Fire Protection Association's *Standard #56*. Installations made during the past three years prove this latest example of TERRAZZO versatility.

The many advantages of TERRAZZO for hospitals — its permanence, ease of maintenance and attractive appearance — are thus available in a conductive surface which meets severest standards of safety. Write for installation specifications.

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION, INC.

SHERATON BUILDING, 711 14th ST., N.W. WASHINGTON 5, D. C.

p/a views

(Continued from page 18)

Vlassov's criticism strikes home. America has been brutal and thoughtless in the destruction of our old buildings. The monster called Real Estate Market went unchecked in devouring all evidence of past achievements. It is only very recently that effective steps have been taken to rescue the remnants.

But apart from this one point, our lack of historical inclusion is our distinction as pioneers of a new—technological—era in architecture. Goethe, in "Iphigenie," sums up what distinguishes our approach from that of the Russians:

". . . and well is he who fondly reminisces of forebears who were great in word and deed, and proudly sees himself and all his work linked to the end of this impressive chain."

In this we have to stand by ourselves, conscious of our destiny to be creators—not thieves—of history.

SIBYL MOHOLY-NAGY

analyze the facts

Dear Editor: I have always worked on the premise that information is the life-blood of Architecture. Before expressing myself on the new Soviet trend in Architecture, I would like to say that in order to do so I must know more and more: why they do what they do, why they say what they say, why they draw what they draw, and why they build what they build.

Certainly one viewing the new Polish palace of culture as one of their current efforts, and applying the familiar standards of architectural criticism, immediately directs himself to the obvious negative esthetic reaction. But—is this the end of the discussion? Decidedly not!

This form of purely visual criticism is never completely satisfactory either for the critic, or those receiving the criticism. Proper criticisms can be given only when all the facts have been properly analyzed. This is important to me.

In your interview with the Soviet architects, they talk about the neglect in the West of the cultural past, the need for more artistic development, the relationship of the role of architecture to the desires of the people and the fallacy of the preconceived esthetic. These arguments are absolutely correct as far as they go. However, this brings up many questions which I would like to have answered, and which I feel would help clarify future criticisms and understanding:

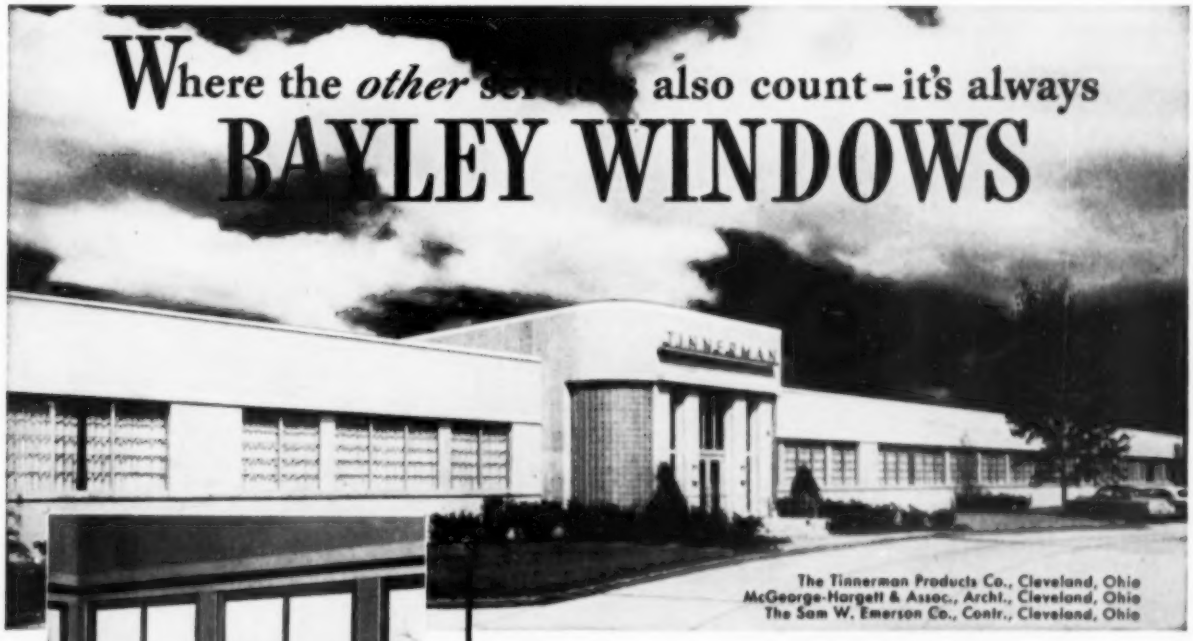
1. How are the latest developments in the field of Mechanical and Structural Engineering that are of benefit to mankind being considered as part of their architecture?

2. How would the criticisms by Soviet architects referred to by Vlassov effect architectural development there? What were the points of view expressed?

3. More specifically, which of the California works was Vlassov commenting on when he said "some good things have come from California"?

(Continued on page 22)

Where the *other* s[illegible] also count – it's always BAYLEY WINDOWS



The Tinnerman Products Co., Cleveland, Ohio
McGeorge-Hargett & Assoc., Archt., Cleveland, Ohio
The Sam W. Emerson Co., Contr., Cleveland, Ohio

Highlights of this New Popular BAYLEY Product

- Carries Quality Approved Seal of the Aluminum Window Mfgrs. Ass'n. for materials, construction, strength of sections and air infiltration.
- Modern Appearance.
- Economical — Painting unnecessary.
- Permanent — Long carefree life.
- Simplicity — No complicated mechanism.
- Adaptable to all types of construction.
- Glazing outside — flat surface inside.
- Extra deep sections — Accommodate "Thermopane" or "Twindow" glazing.
- Easily washed from inside.
- Prepared for screens.
- Permits use of accessories, such as draperies, shades, curtains, venetian blinds or awnings.
- Positive acting hardware of white bronze.

73 *Years of* RELIABILITY

Bayley Aluminum Projected Window

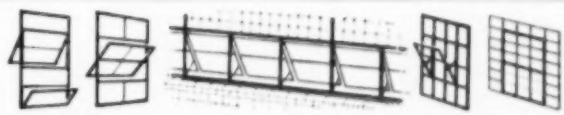
Offers New Features for Modern Buildings of All Types

The *first* essential to a truly satisfactory relationship is a fine quality product. But much more is also required. Full appreciation of this fact is the bedrock of Bayley's policy — and is the reason descriminating designers from coast to coast have so highly favored Bayley for so many years.

Bayley's determination to better serve through all the building stages — from the building's inception to its occupancy — is again exemplified in the Bayley Aluminum Projected Window. It represents the culmination of years of conscientious endeavor. First to fully recognize the universal advantages of the projected window, Bayley refined its desirable features in the most enduring construction material developed through long research by the Aluminum Industry. The result is an ideal window for schools, hospitals, institutional and commercial buildings — but equally suited for private living units — that reflects Bayley's years of specialized window experience.

Regardless of window requirements, you too will find *extra values* in discussing your needs with Bayley. Write or phone.

See Bayley in Sweet's. Complete catalogs on aluminum windows, 17a/BA; steel windows, 17b/BAL; Saf-T-Gard Hospital Detention Window, 17b/BAY.



THE WILLIAM BAYLEY COMPANY

Springfield, Ohio

District Sales Offices:

Springfield Chicago 2 New York 17 Washington 16

p/a views

(Continued from page 20)

4. Can more examples of other types of buildings than those recently published in this country, aside from the civic and monumental works, be discussed? For example, what are the feelings of their architects on esthetics and structural development of other building types such as hospitals, factories, residential, regional planning developments, etc.?

I believe this brings me back to my opening sentence and premise. Thanks a lot for this bit of provocative information. I hope that you will be able to get the answers to some of the questions I have asked. Perhaps someday a really constructive form of criticism can be developed.

Here's to more informed Architects!

SIDNEY L. KATZ
New York, N. Y.

is it the law?

Dear Bernard Tomson: In the January issue of PROGRESSIVE ARCHITECTURE in your column, IT'S THE LAW, you discuss the controversy between architects and engineers as to what they have the legal right to do professionally.

This controversy has been very acute in the state of Tennessee for some six years and culminated in a law suit styled *Stuart Fonde vs. N. W. Dougherty* (Chairman, State Board of Architectural and Engineering Examiners). The Tennessee Chapter of the A.I.A. and the Tennessee Society of Professional Engineers separately filed intervening petitions.

Fonde is a registered engineer and had been designing and building residences, commercial buildings, and small hospitals. The architects members, only, of the State Board had contested his legal right to do this. After a series of attempts to settle the difference between the Board and Fonde, Fonde filed a petition asking the court to enjoin the Board from interfering in his activities.

Enclosed is a copy of the Chancellor's opinion. I am sending this to you because I believe that people in your position can have a steadying influence on both professions and help them to come to an understanding of the prerogatives and responsibilities.

This opinion is what the N.S.P.E. felt was the proper interpretation of the state licensing law and is the only kind of legal instrument which the engineers believe will not compromise the prerogatives of either profession and for that reason the only solution to the argument.

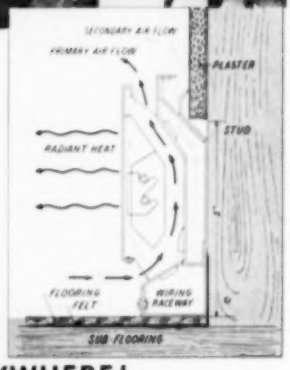
If I can be of any further assistance to you in the collection of data on this case, I will be happy to do so.

O. CLARKE MANN, Structural Engineer
Memphis 3, Tenn.

without reservation

Dear Editor: Congratulations! Sibyl Moholy-Nagy's article *(February 1953 P/A)* was the *best* that I have *ever* read in an architectural magazine.

ISHAM MCCONNELL
Cambridge, Mass.



NEW WESIX BASEBOARD PANELS

Luxury Heat at Low Cost!

Here's the perfect answer for new or remodeled homes where larger window area or changeable outside temperatures create heating problems only modern perimeter heating can solve. With new Wesix Automatic Electric Baseboard there is *no* time-lag from excessive thermal storage, *no* heat loss from transmission or distribution — a temperature difference of less than 2 degrees floor to ceiling can be expected in a well engineered installation.

Easily Installed . . . ANYWHERE!

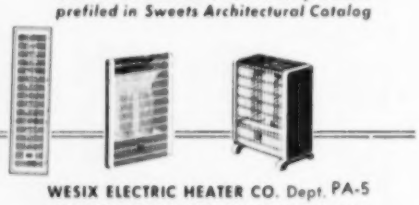
Since Wesix Baseboards are completely pre-fabricated with no metal cutting or external controls required, you can be sure of perfect installation. Panels may be installed recessed or on wall surface without alteration and are available in standard lengths of 32 and 48 inches at a watt density of 157 watts (536 B.T.U.) per lineal foot with a maximum surface temperature of 140 degrees Fahrenheit. Overall height of six inches allows installation under windows with sill mold only seven inches from finished floor.

Specify Wesix for complete home heating or as economically installed and operated auxiliary heat and you specify perfect comfort! Send floor plans and insulation specifications to your nearest Wesix office for free engineering layout.

Details of all Wesix Wireheat products prefiled in Sweets Architectural Catalog

WESIX *Wiredheat*
AUTOMATIC *Electric* HEAT

LOOK FOR THIS SIGN AT YOUR WESIX DEALERS



WESIX ELECTRIC HEATER CO. Dept. PA-5
390 FIRST STREET, SAN FRANCISCO, CALIF.
Seattle · Portland · Los Angeles · Detroit
Chicago · Dallas · Huntsville, Ala.

Check the cost of this handsome RIXSON interior door installation

you really pay no more for the advantages of a UNI-CHECK concealed closer

Full unobstructed door opening . . . no unsightly arms or bulky mechanism exposed . . . a modern appearance of trim simplicity . . . plus the trouble-free function of a genuine RIXSON closer safely concealed in the rigid floor . . . And all things considered you pay no more. Check for yourself . . . write for full information.

THE OSCAR C. RIXSON CO.
4450 w. carroll ave. • chicago 24, illinois

One of many Uni-check installations in offices of Friedman, Alschuler and Sincere, Architects, Chicago.

Typical applications of Pittsburgh Glass in recent

79 SOLEX-TWINDOW units make up this patio wall of the Neiman-Marcus Preston Center Store at Dallas, Texas. The result is a pleasant shopping environment, the best possible display of the merchandise, protection to fabrics and other materials against excessive fading and bleaching by intense sunlight. The inset shows a detail of one of the entrances in which Herculite Doors are utilized. Other Pittsburgh Glass products used here include Polished Plate Glass, Mirrors, and Heavy Rough Plate for the interior stair railing. Architects: De Witt and Swank, Dallas, Texas; Interior Designer: Eleanor LeMaire, New York City.

construction

THIS INTERESTING entrance at the Schmidt Provision Company, Toledo, Ohio, is completely walled with Pittsburgh Plate Glass (approximately 20 ft. wide and 20 ft. high—running from the floor to the ceiling). It is set in Pittco De Luxe Sash No. 12 C and divided with horizontal and vertical mullions of No. 24 CTC. The doorway itself is a standard Pittsburgh Doorway, Style No. 16. Architect: Karl B. Hoke, Toledo, Ohio.

SOLEX-TWINDOW gives all the advantages of Twindow—Pittsburgh's window with built-in insulation—plus the solar-heat-absorbing, sun-glare-reducing properties of Solex. As shown by this cutaway view, these units consist of two panes. The outer is Solex, the inner clear Plate Glass. In between is a sealed-in air space. A stainless steel frame protects the seal and glass edges, and it also makes handling safe, quick and easy.

Design it better with **Pittsburgh Glass**

Your Sweet's Catalog File contains detailed information on all Pittsburgh Plate Glass Company products . . . Sections 7a, 13e, 15, 16b, 21.

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS · FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

GUARANTEE

Lockwood ball-bearing door closers are unconditionally guaranteed for 2 years, except when misapplied or misused.

LOCKWOOD Quality pays off in MATCHLESS PERFORMANCE

No other door closer can equal the smooth action and long-lasting quality of Lockwood's precision-made ball-bearing model. Compare these Lockwood features with any other closer on the market:

BALL-BEARING SUPPORT
at the main bearing points ensures friction-free power . . . and only Lockwood has it.

LEAK-PROOF GLAND AND SPLASH CHAMBER
ensures efficient year-round performance with minimum maintenance expense.

OVERSIZE ONE-PIECE SHAFT AND PINION
eliminates all failures due to twisting, bending or shearing.

SUPER POWERED SPRING
guarantees normal closing speed even under extreme draft conditions.

Lockwood

LOCKWOOD HARDWARE MFG. CO.
Fitchburg, Massachusetts

HOFFMAN TEMPERATURE CONTROLLER

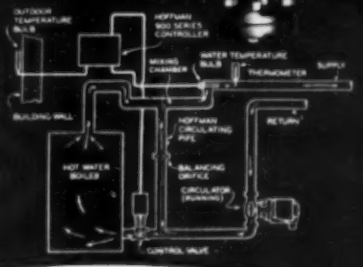
For CONVECTOR, BASEBOARD and PANEL Forced Hot Water Heating Systems

BASEBOARD HEATING

CONVECTOR HEATING

PANEL HEATING

CONSTANT COMFORT ACHIEVED WITH THESE No. 900 SPECIALTIES



CONTINUOUSLY CIRCULATED HOT WATER • • •

AUTOMATICALLY MAINTAINS UNIFORM COMFORT REGARDLESS OF WEATHER CHANGES

The Hoffman Temperature Controller is based on the fact that for every Outdoor Temperature there is a corresponding Supply-water Temperature, which must be *automatically maintained* in the heating units. The correct Supply-water Temperature, in the case of a panel heating system, or the output per sq. ft. EDR in the case of other forms of radiation, must be specified by the Architect or Engineer for *one Outdoor Temperature*. The Controller then *automatically* adjusts the Water Temperatures to balance any other outdoor conditions encountered. The following table illustrates several sets of conditions for a panel heating system.

Architect or Engineer to Specify			Factory Sets Controller		Controller Automatically Furnishes Supply Water at Temperatures Correct for Any Outdoor Temp. as Listed Below				
					Outdoor Temperature °F.				
Design Temp. °F.	Supply Water °F.	Room Temp. °F.	Scale No.	Supply Water °F. at Outdoor 32 °F.	−10	0	+10	+30	+50
					SUPPLY WATER TEMPERATURE °F.				
−10	150	70	11	108	150	140	130	110	90
0	150	70	13½	114	—	150	139	116	94
+10	140	70	14	115	—	—	140	117	94
−10	140	70	9	104	140	132	123	106	88
−10	160	70	13	113	160	147	137	115	92

When the outdoor temperature reaches 65°F., the Circulator automatically stops. The 65° factory setting was chosen because it is the basis for calculating degree days. If a different cut-out temperature is desired, it can be easily adjusted to individual requirements. Occasionally the actual heat loss differs from the calculated loss due perhaps to changes in construction. The Temperature Controller can be easily re-adjusted after installation according to simple, definite instructions furnished by the factory. Technical literature describing the No. 900 Controller and sample specifications, gladly furnished on request.

Applicable to every Type of Building Zoning Easily Accomplished

COMMERCIAL

INDUSTRIAL

RESIDENTIAL

• • • PIONEERED BY HOFFMAN

HOFFMAN SPECIALTY MFG. CORP. • 1001 York Street, Indianapolis 7, Indiana

Makers of Valves, Traps, Hot Water Heating Systems, Vacuum and Condensation Pumps — Sold by Leading Wholesalers of Heating and Plumbing Equipment

AS THE CONSTRUCTION INDUSTRY

1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952
GENERAL CABLE SHIPMENTS for BUILDING CONSTRUCTION and EXPANSION
GROWTH OF CONSTRUCTION INDUSTRY *
*U S Department of Commerce
GENERAL CABLE
GENERAL CABLE
GENERAL CABLE

MOVES AHEAD . . .

You can depend on GENERAL CABLE

...as always

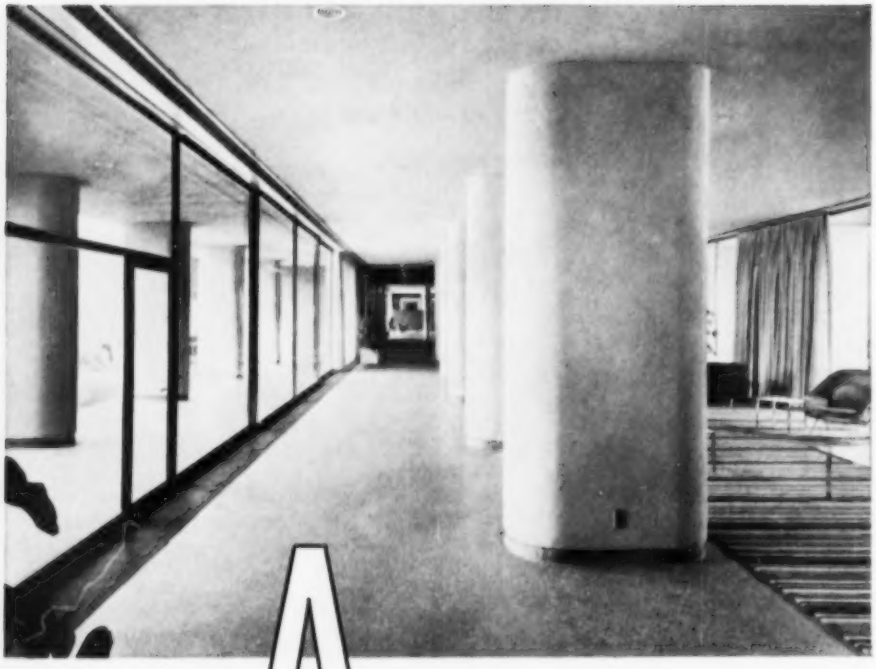
Only through alertness to industrial growth can a manufacturer anticipate the demands of a fast moving industry. And so it is at General Cable—for over 70 years a dependable, ever-expanding source for thousands of different wire and cable products. With one standard of quality—the highest possible—General Cable's vast service and manufacturing facilities stretch across America to make fast delivery an actuality on every construction job—in every section of the country.

When considering wire or cable, specify General Cable!

"More Power to You"®

GENERAL CABLE
CORPORATION

EXECUTIVE OFFICE: 420 LEXINGTON AVENUE, NEW YORK 17, NEW YORK • SALES OFFICES IN PRINCIPAL CITIES OF THE UNITED STATES



SIMPLIFIED CONSTRUCTION— Each column facing requires only two U-shaped concrete slabs, pre-cast and shop-matched for perfect fit. Beauty and all-weather durability make slabs excellent for both exterior and interior use.

Apartment on columns

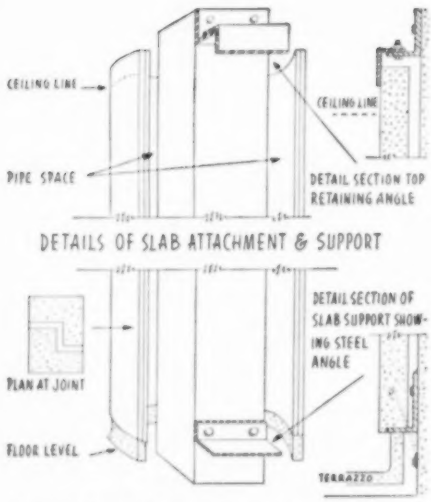
ARCHITECTURAL CONCRETE SLABS COVER INTERIOR AND EXTERIOR COLUMNS, UNIFYING DESIGN

For see-through spaciousness, integrating lobby and gardens into visual unity, the new Manhattan House in New York rests upon 74 handsome columns. Beautiful column facings are pre-cast concrete slabs made with Atlas White Cement and white quartz aggregate . . . attractively accenting the open areas in the building base.

Two flat U-shaped slabs (see detail at right) are joined to form each column. Shop-fitted with shiplap joints, each pair encloses a support column and conduits. Design of the entire ground floor is integrated because concrete slabs are used indoors as well as out.

You will find many beautiful and original uses for concrete facing slabs made with Atlas White Cement. The range of forms, textures and colors is tremendous. And because Atlas White Cement is a true, uniform white, it enhances the rich color values of both aggregates and pigments.

Atlas White Cement complies with ASTM and Federal Specifications. For further information see SWEET'S Catalog, Section 4E/7a and 13C/5, or write Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.



Only 2½" thick, the concrete-slab column facing, above, is 11' 3¼" high, extending 3½" above ceiling line. It has all the strength of reinforced concrete. Slabs made with Atlas White Cement can be cast in sizes up to 100 square feet or more, complete with lugs and hooks for anchoring and handling. The small number of joints in such large sections often minimizes time and cost of erection.

Architects: *Mayer and Whittlesey and Skidmore, Owings & Merrill.*

Contractor: *Cauldwell-Wingate Co.*

Owner: *New York Life Insurance Co.*

MoSai Precast Facing Slabs: *Dextone Co., New Haven, Conn.*

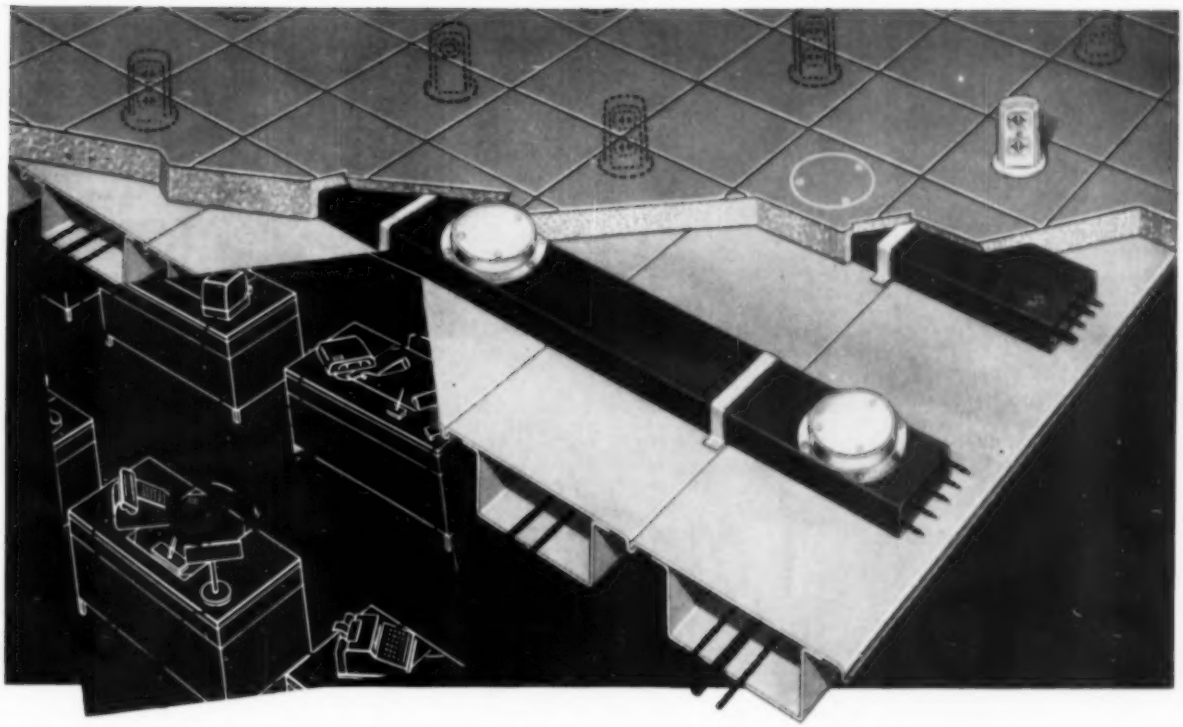
PA-C-39-R

FOR BEAUTY AND UTILITY

ATLAS WHITE CEMENT®

FOR TERRAZZO, PAINT, SLABS, STUCCO

"THEATRE GUILD ON THE AIR" *Sponsored by U. S. Steel Subsidiaries, Sunday Evenings—NBC Network*



NEW WAY TO ENERGIZE YOUR FLOORS
FOR 1001 ELECTRICAL NEEDS

You save building time, labor, materials and money —and get *flexible permanence*—with Fenestra-Nepco Electrifloor. And your building will never be electrically obsolete.

What is Electrifloor?

It's structural unit, electrical system and subfloor all in one. Long-span, load-rated, lightweight Fenestra cellular steel panels are quickly locked together by a small crew to form a tremendously strong subfloor. Electrical header duct is then mounted on top of the panels and wires fed through the panel cells, which form smooth, clean, closed raceways. These raceways are 3″ x 10″—big enough to handle power, light and telephone cables, or extra wires if they are ever needed.

What does it do?

Lightweight, load-rated Electrifloor saves structural steel by cutting the dead weight of your entire building. Foundations can also be less massive. The building goes up fast and is ready for occupancy months sooner. As the frame goes up the floors go in and form flat working platforms. No scaffolds, no *delays*. And because of Electrifloor's design your building will resist winds, earthquakes and bomb shock . . . the welded-together panels form a girder-type structure.

Your building will *never* be electrically obsolete . . . you can have electric outlets anywhere on the floor . . . any time. You can change outlets without disrupting your business . . . move electrical equipment from one room to another, from one floor to another, without expensive electrical alterations. You can move partitions—change your whole office layout. All you do to add an outlet is drill down and pull wires up.

Electrifloor has been fully tested and approved by Underwriters' Laboratories, Inc.

Who developed it?

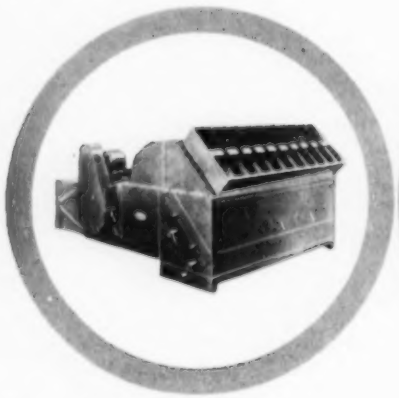
Fenestra*—long a leading manufacturer of metal building panels, and National Electric Products Company (Nepco), long a leading manufacturer of electrical wiring systems are co-operating to give you Electrifloor.

Engineers of both concerns are ready to work with your architects, engineers and contractors.

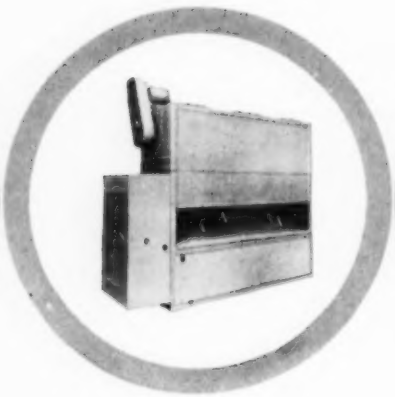
Write us today for facts on the City-County Building in Detroit, a new Electrifloor installation, and for your free book on Fenestra-Nepco Electrifloor, Detroit Steel Products Company, Dept. PA-5, 3409 Griffin Street, Detroit 11, Michigan.

Electrifloor a *Fenestra* **Nepco** product

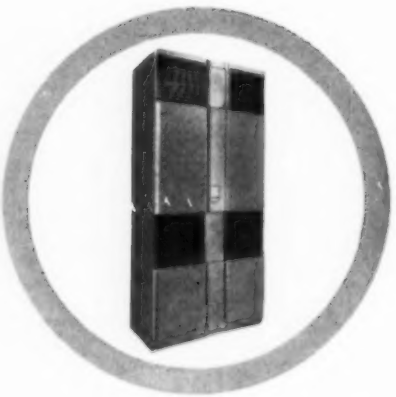
For the best that money can buy specify CARRIER!



Zoning Weathermakers — Fan-coil unit for zoned air conditioning systems that use remote sources of refrigeration and heat. Provides year-round air conditioning with individual room control. Available in five sizes, up to 90 tons.



Commercial Weathermakers — Compact self-contained unit for comfort and industrial applications with duct distribution. Basic assembly includes fan, cooling coil, refrigerating sections. Optional accessories can be added. 20 hp capacity.

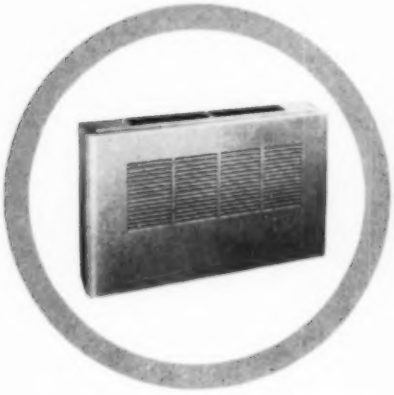


Self-contained Weathermakers — Complete packaged unit for air conditioning stores, shops, offices, laboratories. Used in the space or remote location, with or without duct distribution. Available in six sizes from 2 to 15 hp.

Industrial Weathermakers—Single unit spray-coil air conditioner for central cooling and heating systems using remote sources of refrigeration and heat. Cools, dehumidifies, heats, humidifies, filters and circulates air. Five sizes, up to 90 tons.

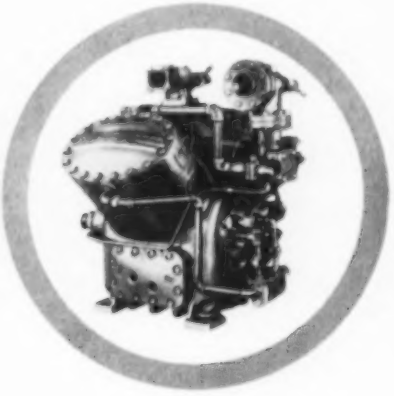
Evaporative Condensers—For heat disposal where water supply and drainage are problems, this fan-coil type refrigerant condenser takes the place of water-cooled condensers and cooling towers. Capacities to 90 tons.

System Weathermakers—Fan-coil type air conditioner for central cooling and heating systems using remote refrigeration and heat. Seven basic fan and coil section sizes used with any one of four cooling coil capacities make 28 different sizes.

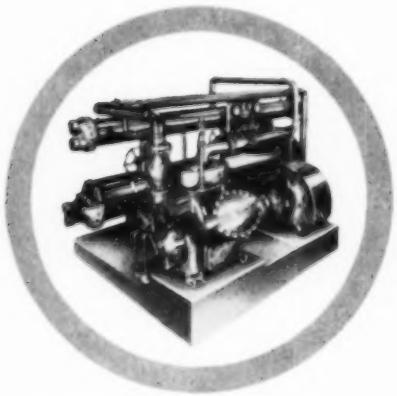


Duct-type Weathermasters—Low-pressure air distribution room units—ideal for hospitals, hotels, office buildings, apartment buildings, laboratories, banks and schools that have a remote source of refrigeration and heat.

2 to 125 hp Freon Refrigerating Compressors and Condensers—Heavy-duty reciprocating type for air conditioning and refrigeration applications. Uses Freon-12, Freon-22 or Carrene 7. Direct or belt drive. Used with water-cooled or evaporative condensers.



75 to 200 hp Reciprocating Compressors—For large commercial and industrial applications like freezing and processing. For industrial and comfort air conditioning. Heavy-duty V and W types, single-acting, enclosed. Direct, gear or belt driven.



100 and 150 hp Refrigerating Machines—Complete reciprocating systems for cooling water or brines for air conditioning and industrial process applications. Driven by electric motor, gas or Diesel engine, or steam turbine.

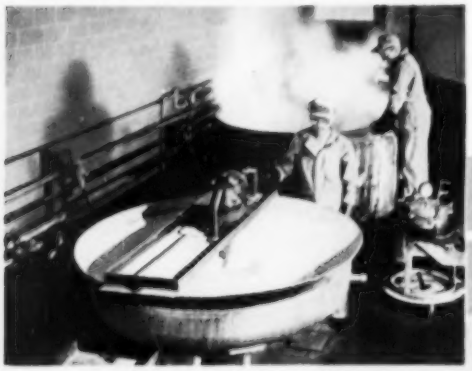
This complete line of equipment is available to architects through Carrier Branch Offices, Dealers and Distributors. Your Classified Telephone Directory will put you in touch with the one nearest you. Carrier Corporation, Syracuse, New York.

Carrier

AIR CONDITIONING • REFRIGERATION

INDUSTRIAL HEATING

IT'S FACING TILE . . . *No other single building material gives you so much for so little*



when you have to wall in a modern WITCHES' CAULDRON

New chemical processes—modern equivalents of a steaming witches' brew—are dictating design and materials of more and more of today's industrial plants. That's one reason why you'll see interiors of Facing Tile in so many advanced new buildings of this type.

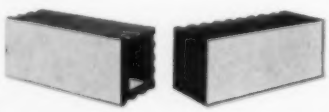
Facing Tile's hard-burned surface is impervious to fumes, odors and most acids—a strong bulwark against chemical attack. And remember, only Facing Tile offers all these other advantages, too:

It washes down easily, withstands hard usage, never needs any type of refinishing.

It builds a wall and finish at the same time, goes up fast, reduces cutting and fitting.

It makes "color-engineering" possible—you can use Facing Tile's scientifically-developed colors to boost plant productivity.

For full data on Facing Tile, glazed or unglazed, just write us. Address: Desk PA-5 of our Washington or New York offices.



FACING TILE INSTITUTE

1520 18th Street, N. W., Washington 6, D. C. 1949 Grand Central Terminal, New York 17, N. Y.

This seal is your assurance of FTI *highest quality Facing Tile.*

In the interest of better Facing Tile construction these companies have contributed to the preparation of this advertisement.

CHARLESTON CLAY PRODUCTS CO.
Charleston 22, West Virginia

THE CLAYCRAFT CO.
Columbus 16, Ohio

HANLEY CO.
New York 17, New York

HOCKING VALLEY BRICK CO.
Columbus 15, Ohio

HYDRAULIC PRESS BRICK CO.
Indianapolis, Indiana

MAPLETON CLAY PRODUCTS CO.
Canton, Ohio

METROPOLITAN BRICK, INC.
Canton 2, Ohio

McNEES-KITTANNING CO.
Kittanning, Pennsylvania

NATCO CORP.
(formerly National Fireproofing Corp.)
Pittsburgh 22, Pennsylvania

STARK CERAMICS, INC.
Canton 1, Ohio

WEST VIRGINIA BRICK CO.
Charleston 24, West Virginia

Choose the floor that's NATURALLY beautiful!

BRUCE RANCH PLANK

Hardwood Floor

Everybody likes this pegged oak floor

Alternate widths, walnut pegs and beveled edges give a Bruce Ranch Plank Floor a luxury look far beyond its moderate cost.

This popular oak floor provides the beautiful decorative effect of an expensive random-width plank floor . . . the same informal charm and enduring style . . . for about one-half the cost. That's because Ranch Plank is pegged and finished at the factory and is installed just like prefinished strip flooring.

Architects and interior designers alike praise Bruce Ranch Plank's versatile appeal and its beautiful "Decorator" Finish that harmonizes with all color schemes. Write us for booklet with full color photos. See our catalog in Sweet's File.

BRUCE **E. L. BRUCE CO., MEMPHIS 1, TENN.**

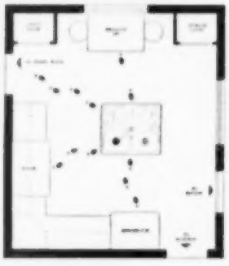
Hedrich-Blessing Photo

It's new . . . It's different . . .

It's a good way to add extra convenience, extra appeal to the kitchens you plan!

THE MIDWAY

the island sink by AMERICAN-Standard



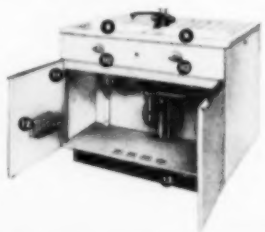
Any point in the kitchen is just a few steps from the Midway sink!

This floor plan shows how the Midway improves efficiency in larger-than-average kitchens. It will save steps . . . save time . . . make kitchen chores less tiring.

Look at the many convenience FEATURES:

1. A streamlined faucet that permits one hand operation.
2. A divided, linoleum-lined cutlery drawer and a storage drawer for bulky items.
3. Removable cutting board.
4. Condiment shelf. Wire construction . . . needs little cleaning.
5. Sliding shelf tray for heavy appliances . . . glides easily on ball-bearing rollers.
6. Sliding, removable storage bin for fruit and vegetables . . . two-peck capacity.
7. Streamlined hand grips on doors and drawers. Chrome strip across front of cabinet serves as door handle.
8. Ventilated storage drawer . . . deep and roomy . . . removable.
9. Spacious sink bowls . . . each 18½" long, 15" wide, 8" deep.
10. Twin dials that operate pop-up drains.
11. Spring hinges hold doors fully open or firmly closed . . . silent acting . . . no sagging.
12. Cleanser basket on inside of one door.
13. Recessed base 4 inches deep permits comfortable working position at sink.

A sliding towel rack is located in cabinet.



● The Midway sink—the *first* island type sink—is a boon to kitchen planning. Designed to be placed in the middle of the floor instead of against the wall, it leaves wall space for extra storage cabinets, more counter area, or possibly a picture window where the conventional sink used to be. It's especially suited to larger-than-average kitchens.

The Midway measures 44" long and 37½" wide. It features two deep sink bowls on one side, and a sanitary drainboard with over 800 square inches of work surface on the opposite side. Made of rigid cast iron with a thick, smooth coat of gleaming acid-resisting enamel, the Midway sink is built for long life and lasting beauty. It is available in white and five lovely colors. Among the features that are sure to make a hit with your clients are an exclusive new fitting which permits one-hand control of water temperature and water flow, and the two pop-up drains which are controlled by twin dials located outside the sink . . . can be operated without getting the hands wet!

The streamlined, bonderized steel cabinet of the Midway opens from both front and back. It affords an abundance of storage space and many built-in conveniences. Electrical outlets on sides of the cabinet permit use of appliances.

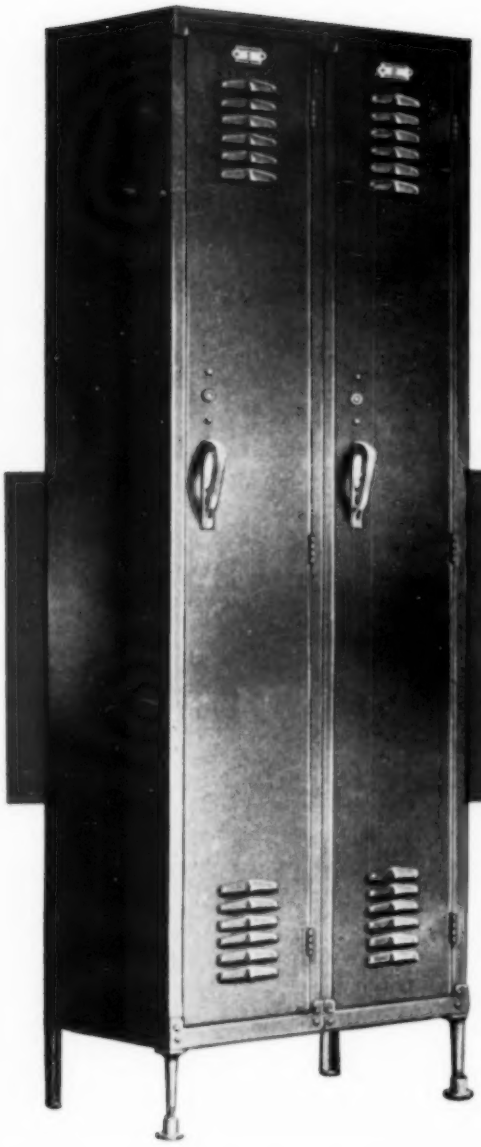
For additional information on the Midway, write for literature, Form No. 327.

American Radiator & Standard Sanitary Corp., Dept. PA-53, Pittsburgh 30, Pa.

AMERICAN-Standard KITCHENS

Serving home and industry

AMERICAN-STANDARD · AMERICAN BLOWER
CHURCH SEATS & WALL TILE · DETROIT CONTROLS
KEWANEE BOILERS · ROSS EXCHANGERS



Superior Construction Makes The Big Difference!

MEDART
STEEL LOCKERS

No ordinary lockers are these! The basic reason Medart Lockers have been leading choice among architects and builders isn't price, but value—what the client actually gets for his money.

First of all, Medart Steel Lockers are built to last—to give many *extra* years of rugged service and still retain their just-installed appearance—to provide far-above-average tamper-proof, pilfer-proof security with the lowest possible maintenance.

Secondly, because Medart originated and perfected virtually every feature now considered a "must" in modern steel lockers, Medart makes the only lockers that include them *all*, not just one or two.

Be confident, when you specify Medart Steel Lockers, that no others made can surpass them in good engineering and construction, quality materials, advanced features and dependable durability. And remember—Medart's 80 years of experience, to help you solve every locker problem, is yours without obligation.

Write For Catalog

MEDART LOCKERS in all standard types and sizes, recessed and free-standing, are built by Medart.

BASKET SHELVING ... in both permanent and portable types, and in many sizes, is built by Medart.

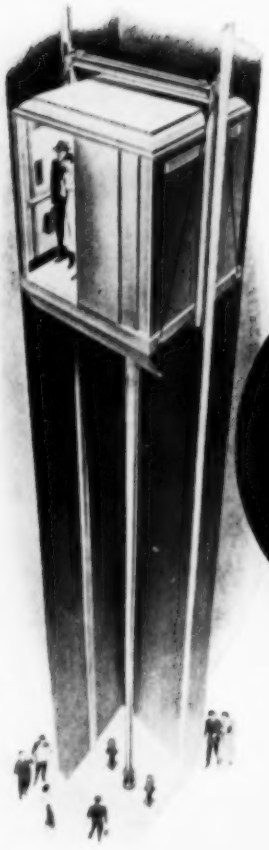
SEE OUR CATALOG IN SWEET'S

FRED MEDART PRODUCTS, INC. 3576 DE KALB STREET ST. LOUIS 18, MISSOURI

World's Only Complete Single Source For Gymnasium Equipment

Telescopic Gym Seats | Lockers & Wire Basket Shelving | Lockerobes & Grade Robes | Basketball Backstops | Physical Fitness Apparatus | Basketball & Foot ball Scoreboards | Physical Therapy Equipment

Medart



Smooth, safe, economical Oildraulic power supports and moves the elevator car

The trend is to

Rotary OILDRAULIC® Elevators

for modern buildings

CHICAGO

Walgreen General Offices
Architect: A. Epstein and Sons, Inc.
General Contractor: Sumner S. Sollitt Construction Co.
Rotary Oildraulic Elevator (Freight) installed by Gallaher & Speck, Inc.

No penthouse or heavy sidewalls

When you specify a Rotary Oildraulic Elevator you eliminate the costly, unsightly penthouse and substantially lighten the shaftway structure. This is possible because the elevator car and its load are supported by the hydraulic system—not the building structure—and because Rotary's compact power unit can be located on any landing or placed in an area with other mechanical equipment. These elevators are made for rises up to 50 feet, with capacities as high as 100,000 lbs.

Smooth starts, gentle stops, accurate landings

The Rotary Oildraulic Elevator is moved and controlled by oil under pressure, the most powerful and economical method of lifting heavy loads. The revolutionary Rota-Flow oil-hydraulic power system gives velvet-smooth starts and cushioned stops. Oildraulic automatic floor leveling positions the elevator car to each landing with exactness . . . ¼" accuracy guaranteed. The new Oildraulic Controller is a remarkable device that handles the functions of seven separate control valves . . . simplifies adjustments and maintenance.

For freight or passenger service

Over 85,000 Rotary Oildraulic Elevators and lifts are serving leading companies and institutions from coast to coast. They are engineered and built by Rotary in sizes and capacities as specified, with any desired types of cabs, doors and controls. Our Engineering Department and nation-wide field organization will be glad to work with you on preliminary layouts and specifications. Write for catalog and complete architectural data.

Rotary

Oildraulic Elevators

ROTARY LIFT CO., 1003 KENTUCKY, MEMPHIS 2, TENN.
World's oldest and largest maker of oil hydraulic elevators
SEE OUR CATALOG IN SWEET'S FILES

LOS ANGELES *(above)*

601 South Ardmore Building
Architect: Carrington H. Lewis
General Contractor: Robson-Berns
Rotary Oildraulic Elevator (Passenger) installed by Elevator Maintenance Company

EAST ST. LOUIS *(above)*

Alcoa Research Laboratory
Architect: Company architect
General Contractors: Fruin-Colnon Contracting Co.
Rotary Oildraulic Elevator (Passenger-Freight) installed by General Elevator Engineering Co.

MEMPHIS *(left)*

Julius Lewis Department Store
Architect: Hanker & Heyer
General Contractors: McNeese Construction Co.
Rotary Oildraulic Elevators (Passenger and Freight) installed by The Southern Company

Glazing the Air-Conditioned Home

WHY AIR CONDITIONING CALLS FOR SPECIAL CONSIDERATION OF WINDOWS

Windows are possible sources of heat gain in summer, just as they may waste heat in winter. That's why, in air-conditioned homes more than ever, windows must be thoughtfully planned to give home buyers the comfort they want, and to assure efficient and economical operation of the air-conditioning system.

YOU HAVE THESE CHOICES FOR BETTER HEATING AND COOLING:

1. Resort to old-style, small windows to reduce heat loss and heat gain.
2. Use insulated windows. There are two ways to do this:
   a. Storm sash on all windows the year 'round.
   b. Sealed insulating glass in all windows.

SMALLER WINDOWS

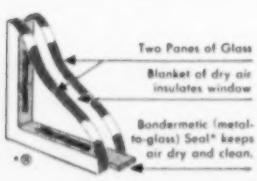
Smaller windows have steadily lost favor with architects, builders and buyers. Home buyers have shown a tremendous and continued desire for picture windows and window walls. To give them smaller windows would be a backward step that is sure to run into sales resistance—resistance which would be felt by builders, architects, real estate people and air-conditioning people, too.

INSULATED WINDOWS

Insulated windows, the other possibility, are a more logical and saleable answer to glazing for air-conditioning and heating economy. With insulated windows you reduce heat loss in winter and heat gain in summer. They save fuel in winter and power in summer, and help make the house more comfortable the year 'round. Consider the two ways of insulating windows:

1. Storm sash is one means of window insulation. They can be left in all year to provide summer as well as winter insulation. But they must be taken down periodically for washing, since dirt and moisture will infiltrate between them. And storm sash in sizes required for today's larger windows are unwieldy.

2. Sealed double glazing allows the use of large windows for daylight and view without the bother of storm sash. More and more builders have been putting *Thermopane*® insulating glass in medium and low-price homes just for its winter benefits. Now, in the air-conditioned home, these become year-round benefits and the extra cost of double glazing is doubly justified. The extra cost is minimized by the use of standard size units, standard sash and simplified installation methods.



Architect Everett V. Welch, Dallas, Texas, used *Thermopane* insulating glass in this air-conditioned home in Dallas. Says Mr. Welch: "This resulted in savings on both heating and air conditioning, first from the standpoint of initial cost and second, from the standpoint of operational cost".

The table below shows *Thermopane's* effectiveness in cutting down heat transfer by conduction and convection from the warm to the cold side. *Thermopane* saves, roughly, half of the money that would be wasted through single glass by these forms of heat transfer.

Kind of Glass	Thickness	Winter U. Value	Summer U. Value
Single pane (plate or sheet)	⅛"	1.16	1.07
	¼"	1.15	1.06
Thermopane (double-pane units)	½" (¼" air space)	.65	.61
	1" (½" air space)	.58	.56

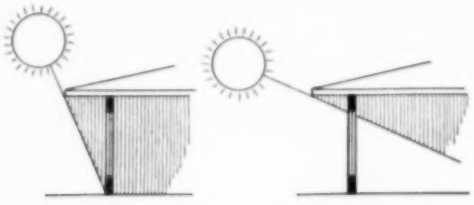
NOTE: Heat transmission coefficients (U. values) vary with ranges of temperature. Winter U. values above are based on 10° outside temperature, 70° inside temperature. Summer U. values are based on 95° outside temperature and 80° inside temperature. Wind velocity of 15 mph outdoors and normal free air movement inside are assumed in both cases.

HOW TO PLACE WINDOWS IN AIR-CONDITIONED HOMES

Insulation, alone, is not enough. Location and exterior shading of windows are vitally important if heating and air conditioning are to work with maximum effectiveness and economy. Energy from the sun and sky place by far the biggest load on air-conditioning systems in homes. The house should be located to make maximum use of the sun for winter warmth, but must have provision for shading certain windows in summer.

SOUTH WINDOWS

To make maximum use of solar heating in winter, the house should be laid out along an east-west axis, with large windows facing south. This brings in the low winter sun for fuel savings and comfort. South windows are easily protected from high summer sun by a roof extension (so designed that the low winter sun enters under it). The diagrams below show how this works. Most architects and engineers are equipped with the necessary guides for designing correct shading devices for various latitudes.



Sun angle on June 21.

Sun angle on December 21.

This exterior view shows how Architect Welch provided a roof overhang to shade south windows from the sun in summer.

WEST WINDOWS

West windows must be more carefully considered than those on other elevations. Due to the buildup of heat through a hot summer day and the fact that the west elevation is exposed to the low afternoon sun, heat transmission through west windows can place a great load on the air-conditioning system. There are several possible ways to handle the west elevation problem:

1. Some architects and builders solve this problem by placing the porch, garage, carport or utility room on this side of the house.

2. If there are large trees on the site (or if they can be added) to shade west windows, the problem is solved by nature. The leaves provide summer shade—the bare branches let the welcome winter sun come through.

3. Heat absorbing glass is an effective means of decreasing solar heat gain. This blue-green glass is made with a special chemical composition which enables it to absorb solar energy. Much of this heat is dissipated back outdoors, so that less load is thrown on cooling equipment. For best results in west windows, therefore, *Thermopane* should have heat absorbing glass as the outer pane. This heat absorbing *Thermopane* reduces the heat gain through west windows approximately 50% as compared to single-pane, clear glass windows. This has been determined by calculations made for west windows at 4:00 P.M. in summer, when the sun is considered to be at its worst angle. By reducing the cooling load, heat absorbing *Thermopane* may even reduce the size of the air-conditioning equipment required for the home.

EAST AND NORTH WINDOWS

North windows rarely present a problem of radiant heat gain. Windows in the eastern elevation, if exposed to the morning sun, may require shading as suggested for western windows. An engineer's or architect's recommendations should be obtained on this.

TYPES OF SASH TO USE

Some architects and builders employ fixed sash in air-conditioned homes, relying on the heating and air-conditioning system to provide ventilation. In some cases, louvers or other kinds of openings are used for supplementary ventilation. Fixed sash are usually economical and they do away with the need for insect screens in windows. Standard picture window and window wall frames are available from a number of manufacturers through their dealers—frames of wood or metal. These frames take standard sizes of *Thermopane* insulating glass which is readily available from L·O·F Distributors and Dealers.

However, many people will insist upon having ventilating sash in their homes for psychological reasons and because they may want to use natural ventilation in the more moderate seasons of the year. Their preferences can be satisfied with ventilating sash which take standard *Thermopane* units. These sash, of wood or metal, are available in all common types. Your L·O·F Glass Distributor or Dealer can furnish information about them and about standard *Thermopane* units for them. Or, write us if you wish more complete information on *Thermopane*, its standard sizes and types of sash for it.

These two pages are a condensation of a brochure that covers the entire subject more fully with additional technical supporting data. We shall be pleased to have you write for a copy of "Glazing the Air-Conditioned Home".

Libbey·Owens·Ford Glass Company, 8353 Nicholas Building, Toledo 3, Ohio

LIBBEY·OWENS·FORD *a Great Name in* **GLASS**

FOR LASTING ROOF ECONOMY

Design with TRUSCON FERROBORD® STEELDECK

- **Longer spans between purlins**
- **Full-length interlocking**
- **Lightweight...easy to handle**
- **Roofs large areas quickly**

● Whatever the roof—flat, pitched, curved—you *save* with Truscon Ferrobord Roofdeck.

This lightweight steel decking is available in units long enough to span three or more purlin spacings. Members are designed and formed for *full-length interlocking*, giving maximum lateral distribution of concentrated loadings. Ferrobord may be considered as a continuous beam rather than as a simply supported beam, with a consequent increase of 25% in carrying capacity. Result: you save on trusses and structural work.

Truscon Ferrobord roofs large areas quickly. It is easy to handle, easy to place. Narrow width of this deck permits each piece to be fastened to its support at each rib, with individual units either welded or clipped to supporting framework. Vertical ribs with bottom flange take stress and offer perfectly flat contacts for welding. Work is done from above. No need for scaffolding or movable stages during erection.

When laid, Ferrobord's top surface presents a smooth unbroken face that is ideal for the application of insulation and built-up waterproofing. You'll find complete details on Truscon Ferrobord Steeldeck in Sweet's; write us for literature describing all Truscon Steel Building Products.

TRUSCON
MARK OF MERIT PRODUCTS

TRUSCON STEEL DIVISION
REPUBLIC STEEL CORPORATION
1060 ALBERT STREET • YOUNGSTOWN 1, OHIO

TRUSCON® a name you can **build** on

you can be sure of MODERN ELECTRICAL PROTECTION

for schools and other buildings when you

Williamsville Junior-Senior High School
Architects: Duane Lyman & Associates, Buffalo, N. Y.
Electrical Consultant: E. S. Burrows, Buffalo, N. Y.

Alexander Graham Bell Junior High School
Tulsa, Oklahoma
Architects: Black & West, Tulsa, Oklahoma
Electrical Engineer: William Short, Tulsa, Okla.

Specify FA

TRADE MARK

SAFE, dependable, long-lasting and trouble-free light and power control and distribution is of utmost importance in modern school construction.

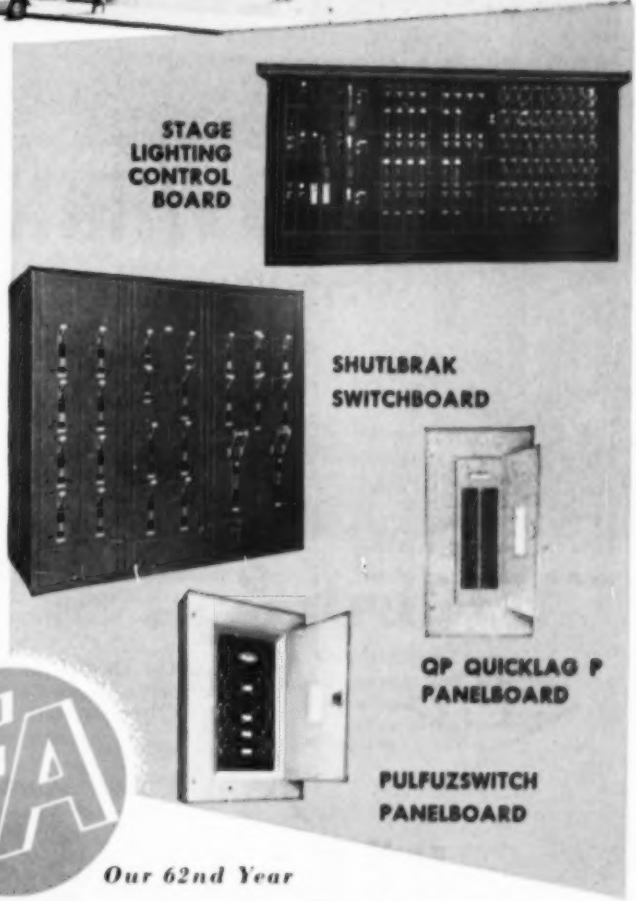
Because all FA products measure up fully to these standards, more and more architects and engineers are specifying them, not only for schools, but all other types of construction as well.

These men know from long experience that FA is tops in the field of power and light distribution and control — that its products are Underwriters' Laboratories approved and will give long, efficient and economical service.

Too, all FA products are expandable — another reason for their growing popularity. Each item is designed, and constructed to provide today's electrical needs, and allows for future expansion.

So do as other architects and engineers are doing. Specify FA not only for schools but for all residential, commercial, industrial and institutional construction.

For information on all FA products, contact your nearest FA representative listed in Sweet's. He'll be glad to provide it.



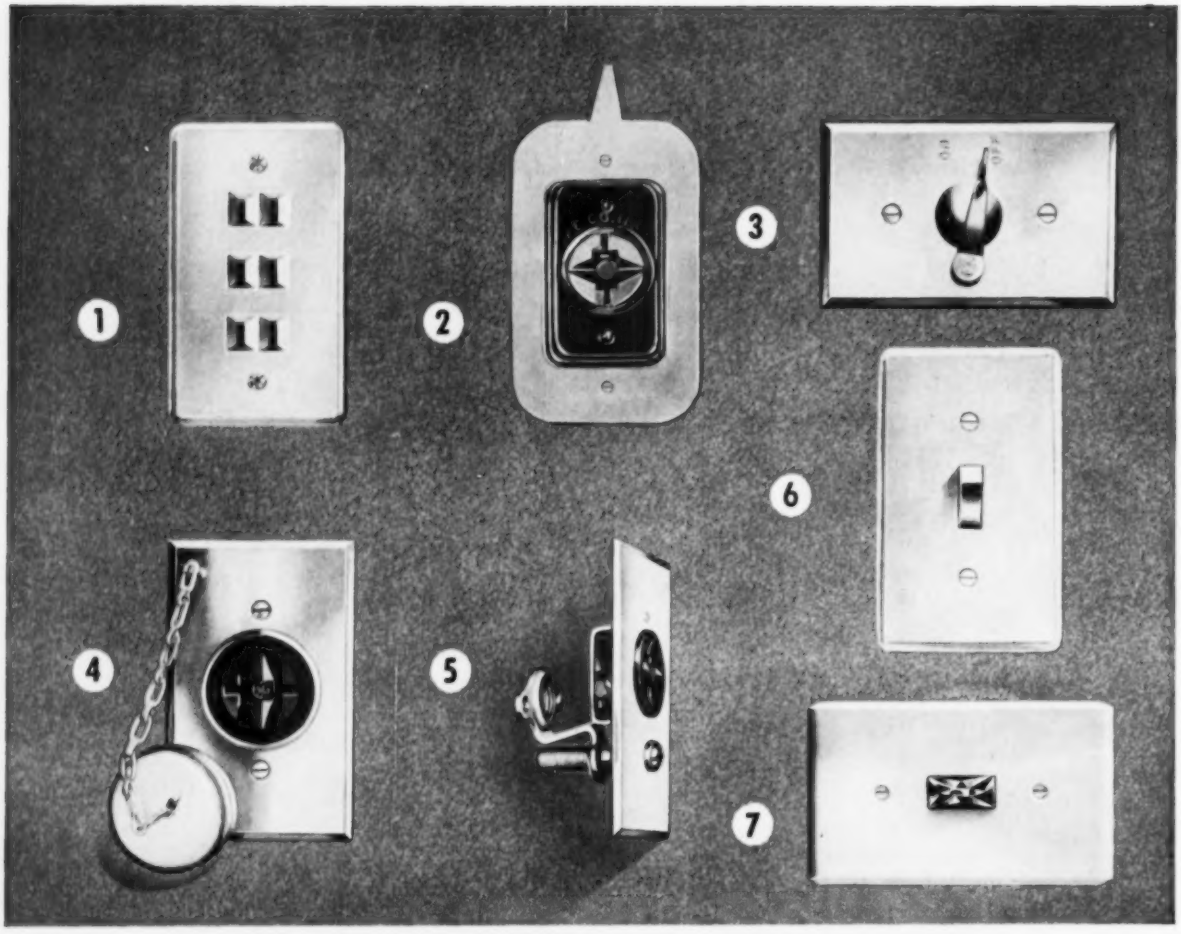
Frank Adam Electric Co.

P. O. BOX 357
ST. LOUIS 3, MISSOURI

FA

Our 62nd Year

Makers of: BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER



7 G-E WIRING DEVICES

that your clients will appreciate

Here are seven General Electric devices that will give your clients so much extra convenience for so little cost. Why not include them in your current plans?

1. **Triple Outlet.** Space-saver—three outlets in the same space as two. Ivory. Catalog No. **RO-1.** Also **RO-2** for switch control.

2. **Clock Hanger**—flush mounted. A neat touch for kitchen or recreation-room use. Cord and plug fit into recess, permitting clock to hang flat on wall. Catalog No. **GE2942.**

3. **Weatherproof Switch.** For dependable service outdoors, on porches, in garages, or other damp places. Catalog No. **GE3024.**

4. **Weatherproof Outlet.** Thoughtful addition to any house for modern outdoor living. Use these outlets on porches, terraces, garages, too. Catalog No. **GE2959.**

5. **Fan Hanger**—flush mounted. For office or home use with swivel- or trunnion-type fans. Mounts in any outlet box. Catalog No. **GE3035.**

6. **Mercury Switch.** Silent, durable, modern. Catalog No. **GE3008** (switch-brown), **RP071-1** (plate-brown), and **GE3088** (switch-ivory), **RP071-2** (plate-ivory).

7. **Pilot-Lite.** Shows when distant lights are on. Is a reminder to turn off porch, garage, or basement lights. Catalog No. **GE853** (pilot light), **GE2331** (bull's eye only), and **RP071-2** (plate-ivory).

1879 75 1954 YEARS OF ELECTRICAL PROGRESS

You can put your confidence in—

GENERAL ELECTRIC

Brotherhood of Boilermakers Office Building,
Kansas City, Kansas
Architect:
John D. Maultsby
General Contractor:
St. Patti Construction Co.
Mechanical Contractor:
Carrier Corporation

ANOTHER KNO-DRAFT BUILDING

MORE AND MORE smart, modern buildings are being equipped with Kno-Draft Adjustable Air Diffusers. The advantages are many—

BEAUTY: Whether left in their natural aluminum finish or painted to match the ceiling, Kno-Draft Adjustable Air Diffusers harmonize with any architectural or decorative style.

EFFICIENCY: With Kno-Draft Adjustable Air Diffusers, you can set and maintain the exact volume and flow pattern of the air—warm or cool—needed to assure the comfort of *uniform temperature without drafts* throughout the conditioned area.

SIMPLICITY: The post-installation adjustability feature of Kno-Draft Air Diffusers means less "engineering" for you. It also assures flexibility to meet possible future layout changes.

COMPLETENESS: There is a complete line of Kno-Draft Adjustable Air Diffusers—types and sizes to meet all engineering and architectural requirements.

You should have on file the *new edition* of the Kno-Draft Data Book—complete up-to-date specifications, engineering and installation data on Kno-Draft Adjustable Air Diffusers. Free on request. Mail the coupon or write for your copy to: Connor Engineering Corporation, Danbury, Connecticut.

CONNOR

kno·draft®

adjustable air diffusers

CONNOR ENGINEERING CORPORATION
Dept. V-53, Danbury, Connecticut

Please send me the *new edition* of the Kno-Draft Data Book—without obligation, of course.

Name .....

Position .....

Company .....

Street .....

City ..... **Zone** ..... **State** .....

G-J 100
Concealed Overhead Door Holder,
Stop, and Shock Absorber
Bill -
Don't overlook the importance of specifying the proper G-J Devices for the various doors, as their products are the proven standard.
P. E. S.
FB-13
Dome Bumper—
Lead Proof Rubber
G-J 1150
Plunger type
Door Holder
F-9
Heavy Duty
Semi-Automatic
Door Holder
and Plunger
Bumper
F-40
Combination
Stop, Holder,
and Bumper
—Push and
Pull Action
Glynn-Johnson Corporation
Builders Hardware Specialties for Over 30 Years
4422 N. Ravenswood Ave. Chicago 40, Illinois
Refer to G-J Catalog for complete line of door holders, bumpers, and specialties . . . for all types of doors in public and commercial buildings.
4301

BACK TO BACK, two second-floor bathrooms, for semi-private rooms. ANACONDA 85 Red Brass Pipe for hot and cold water lines.

20,000 FEET OF QUALITY

NEW HOSPITAL, located in Forest Hills, Long Island, New York, is scheduled for completion in September, 1953. Pomerance & Breines, Architects.

The new hospital of the Forest Hills Foundation (shown under construction at left) is being built to last. To keep maintenance expenses low and fulfill life expectancy of the building, plumbing contractor William Grossberg, Inc., chose ANACONDA 85 Red Brass Pipe to fill the architect's specifications for hot and cold water supply lines.

Twenty thousand feet of it—in standard sizes ranging from ¾ in. to 4 in.—will be installed in this 6-floor, 150-bed hospital. With ANACONDA 85 Red Brass Pipe, the Forest Hills Foundation can count on a trouble-free supply of water for years and years to come. *The American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.*

5401

good for a long, long time

ANACONDA®

85 Red Brass Pipe

for better satisfied clients . . .

SPECIFY: STAINLESS STEEL ROOF DRAINAGE SYSTEMS

No other material can match the performance of stainless steel for roof drainage systems. For appearance and permanence it is unequalled. Stainless Steel will not rust or corrode, nor will it discolor sidings or window frames. It does not require maintenance, and it can be used with its original finish or painted to blend with its surroundings.

Fabrication of stainless steel is not difficult. It can be handled with ease on the usual shop equipment by any sheet metal shop that maintains quality standards of workmanship.

The use of thinner gauges is possible without sacrifice of performance because of its high strength and ability to resist corrosion.

MicroRold Type 430 is the lowest cost quality material available for downspouts, gutters, valleys, flashings, copings, coping caps and back flashing.

Write for your copy of our architectural booklet "The Metal of the Moment."

Washington Steel
CORPORATION
WASHINGTON, PENNSYLVANIA

Waterproofed BRIXMENT HELPS PREVENT LEAKY WALLS

When a masonry wall leaks, water almost never passes *through* the masonry units or *through* the mortar. It works its way through cracks or openings *between* the masonry units and the mortar.

Even when full joints are secured, cracks are not entirely eliminated. The best precaution is therefore to parge or backplaster the face brick with waterproofed mortar, before the back-up brick are laid.

Brixment is permanently waterproofed, during manufacture, with the most effective air-entraining waterproofing agent known. Even under pressure, water cannot readily pass through Brixment mortar. Therefore, if the face brick are backplastered with Brixment mortar, an effective barrier is set up against the further penetration of any water which may have worked its way through cracks or voids in the outside face of the wall.

* * * * * * * *

In addition, the waterproofing in Brixment gives you two other practical benefits:

1 GREATLY INCREASES DURABILITY

2 HELPS PREVENT EFFLORESCENCE

These additional benefits of waterproofed Brixment are fully described in subsequent advertisements. Watch for them!

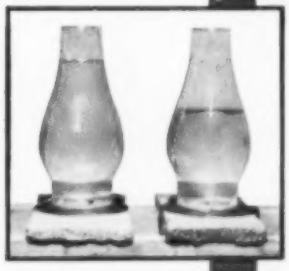
Louisville Cement Co., Louisville 2, Ky.

FIGURE 1

This kind of brick work offers the best protection against leaky brick walls. All joints are full, and the face brick are backplastered with waterproofed mortar before the back-up brick are laid.

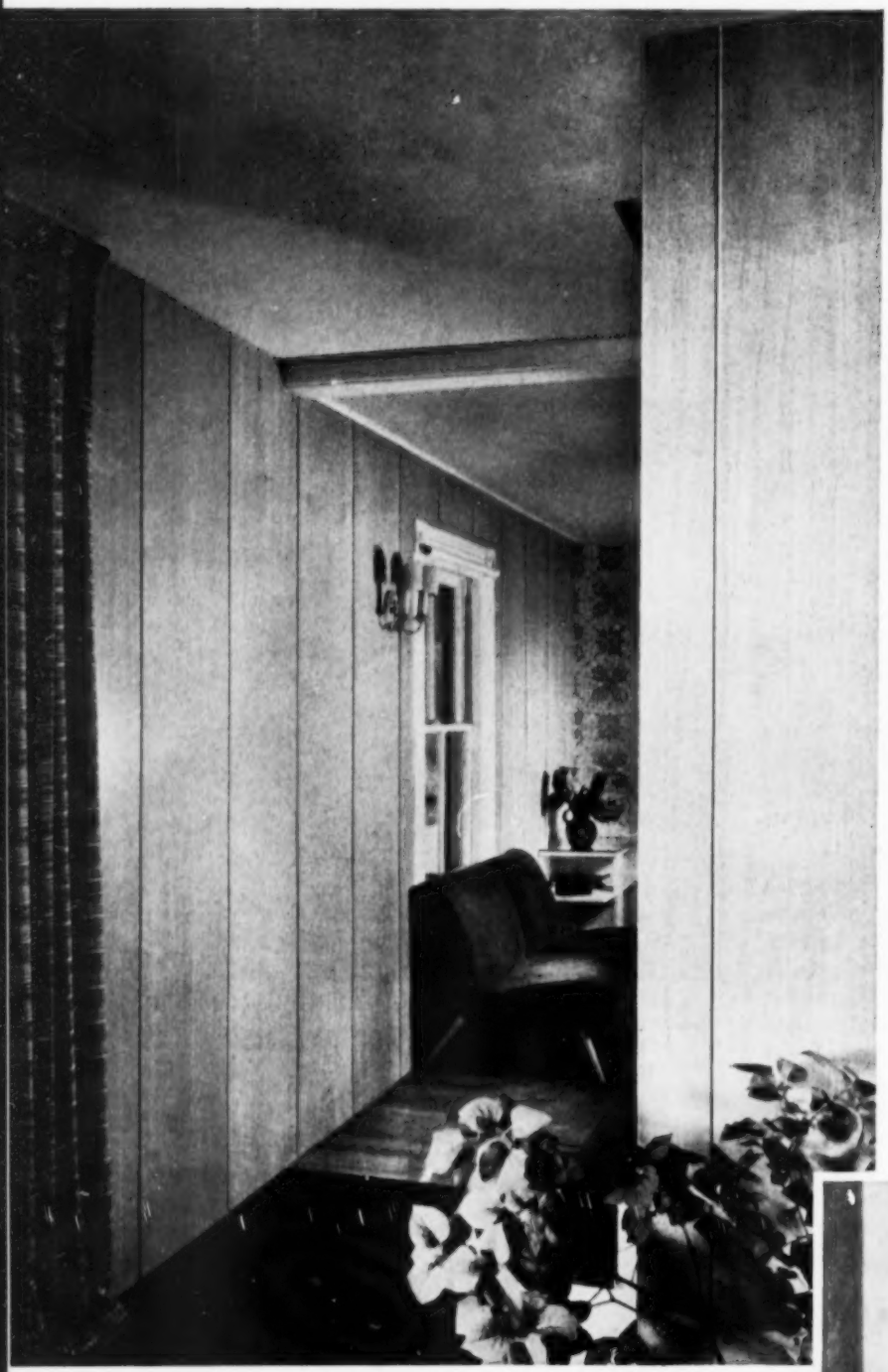
FIGURE 2

Prepare two slabs of mortar, one with Brixment and one with ordinary cement-and-lime mortar. After mortars have hardened, seal a lamp chimney to each of the mortar slabs, using wax or candle grease, and fill with water.



After 24 hours, note how much water has gone into and through the non-waterproofed mortar, and how little water has gone into or through the Brixment mortar.

New low-cost ways to more



Contrast the rich, custom look of this Birch pre-finished Plankweld with an ordinary wall surface. Looks far more expensive than the $58 retail per package which covers 108 sq. ft. Plankweld is edge-grooved to provide neat lap joint. No visible nails because of special metal clips. Factory finished—no finishing on the job!

Home prospects are shopping around. Architects and builders turn to low-cost Weldwood plywoods to add quality and customer interest to homes in all price classes

Frankly speaking home buyers are becoming more and more selective. One industry spokesman recently put it, "home buyers no longer come in with a desperate look on their faces because they have to find some place to live."

This means, simply, customers will shop around and compare. They'll look over offerings carefully. They'll buy homes with the *extras* that add *distinction*.

Weldwood products are investments that more than pay for themselves in satisfied clients for architects and quick turn-over for builders. A living room in a model home paneled in beautiful, low-cost Weldwood oak can make a sale before a single other room has been seen. Weldtex squares on a bedroom ceiling, Surfwood on a TV-room wall, rich-looking Novoply sliding closet doors add the extra personality that makes homes stand out from the crowd.

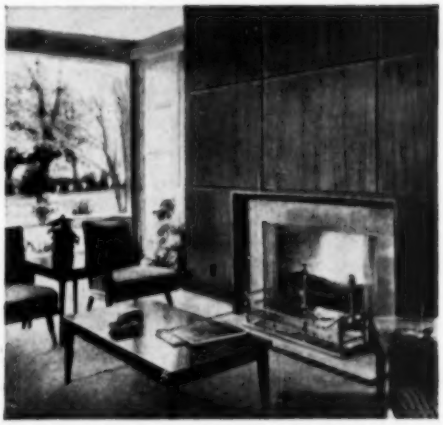
Real wood is the long-range trend in interior home design. Cash in on this trend which is being promoted to *millions* in Weldwood ads and editorial features in House Beautiful, Better Homes and Gardens, American Home and other leading national publications.

Give the homes you design and remodel added richness, distinction and that sought-after "custom" look with Weldwood *real wood* products. Complete information can be supplied at your nearest Weldwood showroom . . . or see your lumber dealer for Weldwood products.

Amazing new wonder-wood Novoply is the flattest panel ever made. Novoply sliding doors never warp, swell, stick, jam or rattle. Once you see the mosaic beauty of this new, low-cost Weldwood product, you'll choose it for everything from wall panels to built-ins. Sizes 4′ x 7′ and 4′ x 8′ in $\frac{3}{8}$″ and $\frac{3}{4}$″ thicknesses—good both sides.

distinctive homes—with Weldwood

Retail material cost for a striking Weldtex 13-foot wall is only $27. Notice how the deep grooves add depth and charm, yet have the functional purpose of hiding face nails and butt joints. Weldtex goes up fast and may be painted, stained or finished "natural."



Superb African Mahogany is an ideal backdrop for either traditional or modern furnishings. For either new construction or remodeling jobs it adds character to any room. Like all Weldwood plywoods, it is guaranteed for the life of the building.

Why paint the ceiling and forget it when it can be a valuable sales asset with Weldtex pre-cut squares? Available in 12", 16" and 24" sizes, they are easy to put up, and can also be used for dramatic wall treatments. Cost—about $47 for a 12' x 15' ceiling.

New idea for kitchens makes extensive use of Weldwood plywoods. Light colored woods like birch and knotty pine are particularly popular. In this kitchen, birch has been used to good advantage. Upkeep with all Weldwood Plywoods is kept to a minimum.

Newest Weldwood paneling is Surfwood, an exciting product for use where a rustic treatment is desired. Surfwood, in 4' x 8' panels, has the authentic "sand-blasted" effect of wood found on the beach—satin smooth with grain and small knots standing out.

Paint or enamel this Weldwood Utility Gum with *no grain raise*. Made without plugs or patches, these low-cost hardwood panels are highly useful for interiors, yet they cost no more than softwood plywood. Sizes: ¼" thick in panels 5' x 4', 7' x 4', and 8' x 4'.

There is a Weldwood Product for every part of the home

- Concrete forms
- Wall and roof sheathing
- Cabinets and built-ins
- Interior walls
- Exterior siding material
- Westinghouse Micarta for counters, table tops and bars
- Doors
- Sub-flooring
- Bathrooms and kitchens

Cost figures above are approximate; for exact quotations consult your lumber dealer.

Weldwood®

United States Plywood Corporation
World's Largest Plywood Organization, New York 36, N. Y.
and
U. S.-Mengel Plywoods, Inc.
Louisville, Ky.

Distributing units in all principal cities • Warehouses in Chief Trading Areas • Dealers Everywhere

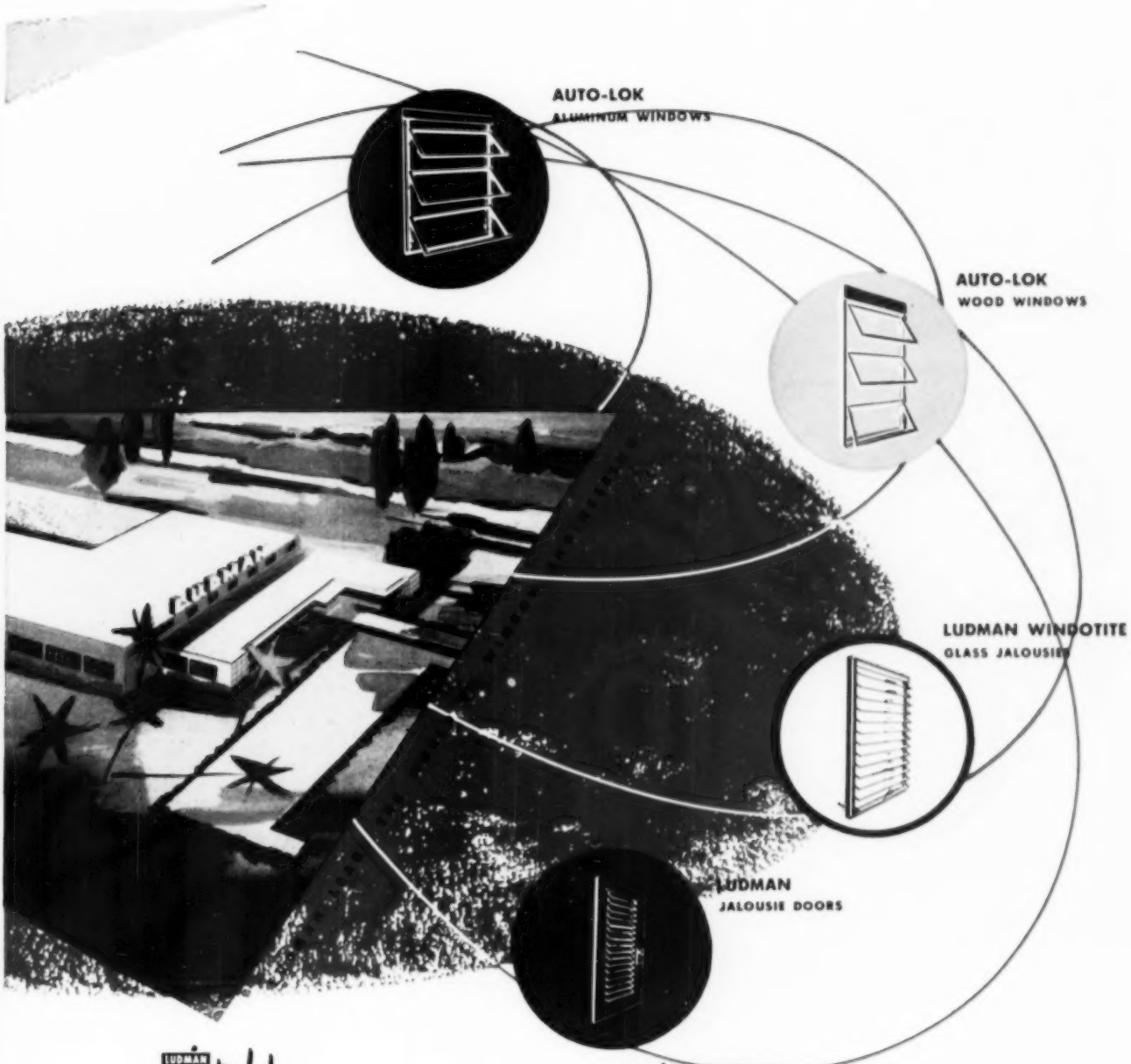
Novoply, Weldtex, Plankweld and Surfwood are registered trade marks

windows for all the world

The result of unrivaled research, design and craftsmanship, Ludman window products in a few short years have forged into national dominance. This huge new plant emphasizes **Ludman's proven window engineering leadership,** and provides facilities for continued product creation and perfection, **and production** . . . without equal.

The "growing pains" of production schedules, which taxed old facilities to the limit, have been solved.
TODAY, Ludman is in a position to meet world-wide demand.

NEW YORK • BOSTON • WASHINGTON, D.C. • CHICAGO • ST. LOUIS



LUDMAN Auto-lok

WINDOWS ALUMINUM OR WOOD

The greatest advance in window design in over 50 years. Acclaimed by architects for versatility . . . by builders for economy and ease of installation . . . by users for light, ventilation, cleaning ease and lifetime trouble-free operation. **The tightest closing windows ever made!**

LUDMAN WindoTite JALOUSIES

AND JALOUSIE DOORS

Immediate acceptance . . . now INSISTENCE, as all America remodels or builds with jalousies. Only Ludman WindoTite Jalousies and Jalousie Doors have tension grip louver clips*, adjustable mullions, and finger-tip control which locks in all positions . . . yet they cost no more.

*patent applied for

ATLANTA • SAN FRANCISCO

LUDMAN Corporation

BOX 4541, DEPT. PA-5 MIAMI, FLORIDA

There's wall space galore...

When the heat's in the floor!

The prime purpose of a heating system is to heat, of course, and radiant panel heating does that superbly. But these modern heating systems have much more to commend them from a woman's point-of-view. And what women want, men get for them.

Because the heating panels of steel pipe are concealed beneath the floors or in the walls or ceilings, every inch of wall and floor space becomes available for use and decoration. Rooms *seem* larger, as a result, and furniture can be positioned in many more ways for complete decorative freedom. Women love that, just as they appreciate the greater cleanliness because there are no drafts, blasts, or hot or cold spots to cause wall streaks and dirt deposits.

So, more and more, architects, builders, and plumbing and heating contractors are planning, specifying and installing "invisible" heating (as the ladies call it!), utilizing the natural advantages *steel pipe* offers for radiant panel systems.

They know that steel pipe has demonstrated its durability through more than 60 years of performance in hot water and steam heating systems. They know that, to the advantage of economy, may be added the factors of formability and weldability essential to satisfactory fabrication of coils and grids.

Yes, *steel pipe* is *first choice*... for radiant heating, snow melting and other applications, the most widely used *pipe* in the world!

Steel Pipe is First Choice

A free 48 page color booklet "Radiant Panel Heating with Steel Pipe" is available. Write for your copy.

COMMITTEE ON STEEL PIPE RESEARCH

AMERICAN IRON AND STEEL INSTITUTE

350 Fifth Avenue, New York 1, N. Y.

50 ACRES of Featherweight Roof Slabs for ONE FEDERAL CUSTOMER ALONE

Allis-Chalmers Mfg. Co. Building No. 85, LaPorte, Ind. Roofed with 238,200 sq. ft. of *Featherweight* Roof Slabs. Architect, Charles W. Cole & Sons. Contractor, H. G. Christman Co.

THE repeated use of a product by discriminating purchasers demonstrates one thing beyond doubt . . . superior product performance. Since 1931 we have been privileged to install more than two million square feet of Federal Roof Deck for the Allis-Chalmers Manufacturing Co. at various locations. Right now we are roofing two of their plant additions.

Service records on thousands of installations throughout North America prove that Federal offers maximum overall value in permanent, firesafe roof protection. Your *Featherweight* Roof not only permits substantial savings in structural steel but it eliminates upkeep expense for all time. Building activities are never interrupted for roof deck repairs or replacements.

A Federal Roof gives you the assured protection of structural concrete, impervious to the elements and corrosive action. The under side presents a pleasing, satin-smooth surface. No painting is ever required. *Featherweight* slabs are speedily laid by our own installation crews, in any weather. Your Federal Roof Deck will *never* remind you of its presence during its endless years of faithful service.

FEDERAL-Featherweight PRECAST STRUCTURAL CONCRETE ROOF SLABS

CHANNEL ROOF DECK SLABS for use with composition covering.
NAILING CONCRETE SLABS to hold securely, slate, tile, copper or other ornamental roof.

see our CATALOG in SWEET'S FILE ARCHITECTURAL

ANY BUILDING—INDUSTRIAL OR INSTITUTIONAL—IS A BETTER BUILDING WITH A FEDERAL ROOF

MADE, LAID AND GUARANTEED BY

FEDERAL CEMENT TILE COMPANY

EXECUTIVE OFFICES: 608 SOUTH DEARBORN STREET • CHICAGO 5, ILL.

FOR OVER FORTY-FIVE YEARS

SALES OFFICES IN PRINCIPAL CITIES

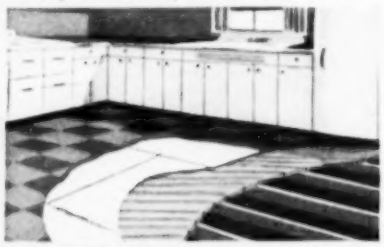
Products Designed to Cut the Cost of Building... FROM CELLAR TO ROOF!

1 Nova Precision-Built Wall and Furniture Units. Space savers! Money savers! Assembled in 30 minutes. From single units to a complete storage wall.

2 Homasote Big Sheets. Save time and labor because of easy handling and unusual size—up to 8 x 14 feet.

3 Nova-Vita Horizontal-Sliding Windows. Revolutionary design. Panes instantly removable. With screens.

4 Nova Roller Doors. Installed in only 30 minutes. For closets, passageways.



5 Homasote Underlayment. Eliminates need for felt or pad. Nailed directly to rough flooring. Adds quality at low cost.

6 Novaproofing. Makes basements beautiful, livable. Above grade, helps keep weather and water out of the building.

7 Nova Insulated Roofs and Walls. Sheathe, shingle and insulate in one operation. Give double-coursed effect.

SEE OUR CATALOG IN SWEET'S

HOMASOTE COMPANY
NOVA SALES
Co. Trenton 3, N. J.

7 ways to plan faster.. build better.. save money!

● Nova Wall and Furniture Units ● Homasote 8' x 14' Insulating-Building Boards ● Nova-Vita Horizontal-Sliding Windows ● Nova Roller Doors and Closet Fronts ● Homasote Underlayment for Linoleum and Carpeting ● Novaproofing for Every Masonry Surface ● Nova Insulated Sidewalls and Roofs

With 43 years of experience in serving architects, designers and builders all over the country, Homasote has now developed a line of building products that successfully meet today's competitive conditions—without sacrifice of quality. Many of their features are the result of our own personal experience in erecting thousands of honestly constructed houses, in record time, and at the most economical cost.

During years of intensive research, our building experts have covered many problems the average builder or architect has never had time to explore.

This priceless experience is yours—in both products and personal service — when you design or build with Homasote and Nova Products. A glance at the illustrations will reveal up to 7 ways in which *you* can profit by using these products in homes, stores, offices and other projects.

Let one of our representatives show you the tremendous advantages to be gained by purchasing from one dependable source — advantages measured in higher quality, lower cost and added investment value.

Mail the coupon today for detailed and fully illustrated information.

HOMASOTE COMPANY, Trenton 3, N. J.
Department 75C

☐ Send detailed, illustrated literature on all Homasote-Nova products

☐ Have representative contact us

Name.....

Address.....

City & Zone..... State.....

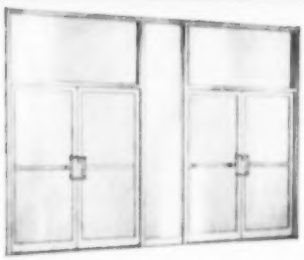
My lumber dealer is.....

NEW FACES..

BRASCO Brings 'em in ... TO BUY

Shanks-Meyers Co., Austin, Texas ▶
Architects: C. H. Page & Son

G. C. Murphy Co., Arlington, Va.
Architect: James F. Hogan, Bethesda, Md.
▼



NEW FACES . . . the lifeblood of retail trade. What better way to attract them than thru full vision display windows artfully framed in Brasco modern metal settings. Yes, Brasco Store Fronts and Complete Entrances *show* more and *sell* more by inviting the all-important second look.

The attention value of Brasco Construction is immediately apparent. Varied and individualized effects are easily attained with our extensive selection of attractive, interchangeable store front sections. Complete assemblies are available in both heavy gauge stainless steel and anodized aluminum. Sash members only 25/32" high provide maximum *Sell*evision® by revealing larger expanses of plate glass.

All Brasco Construction employs the deeper grip which holds glass safely without excessive pressure. Handsome Brasco Aluminum Entrances, fully extruded, combine advanced styling with extreme durability. The doors, 2" thick, are the strongest narrow stile doors obtainable. For complete catalogs and construction details *please write Dept. P 305.*

A COMPLETE LINE FOR EVERY DESIGN

Brasco SAFETY-SET STORE FRONTS

BRASCO MANUFACTURING CO.
HARVEY · (Chicago Suburb) · ILLINOIS
Specialists in Metal Store Front Construction for more than 40 Years

Double opening swing doors from corridors to tenants' quarters.

Stainless steel roof doors and frames opening from penthouses.

First STAINLESS STEEL CURTAIN WALL PANELS

FOR MULTI-STORY CONSTRUCTION FABRICATED BY USF

for PITTSBURGH'S NEW GATEWAY CENTER

At the rate of 10,000 sq. ft. per day—a complete floor—USF fabricated the stainless steel mullions, spandrels, column covers and corner covers comprising the "skin" of the three towering office buildings in Pittsburgh's New Gateway Center. USF also furnished all of the steel doors and frames of the basic building including the *stainless steel* roof doors and frames.

If you are thinking about fabricated metal curtain wall panels . . . in any metal . . . think of USF for fabrication. If you want a single reliable source for both "skin" and steel doors and frames . . . USF can do the whole job!

USF

UNITED STEEL FABRICATORS, INC.

WOOSTER, OHIO

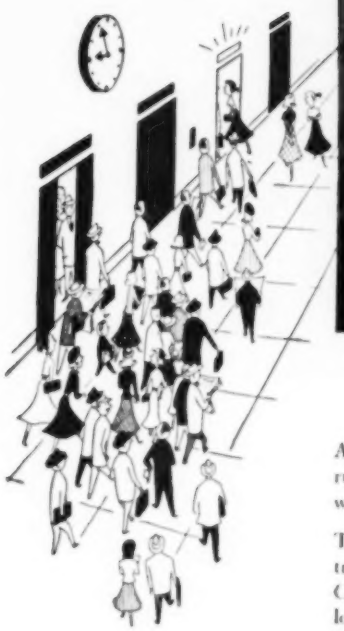
Otis

AUTOTRONIC®

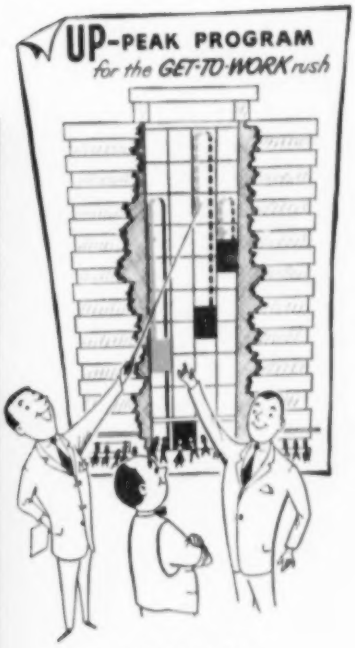
Without Attendant

ELEVATORING

KEEPS MORNING SURGES MOVING



An automatic load weigher starts quickly filled cars ahead of time



SPEEDS RETURN OF EMPTY CARS

Autotronic—WITHOUT ATTENDANT—Elevatoring handles the morning get-to-work rush with an "electronically alert" Up-Peak program. It gets everyone up to work in the shortest possible time. It keeps main floor traffic moving smoothly.

The Up-Peak program uses automatic "This Car Up" signals to direct lobby traffic. It dispatches cars in order of availability, rather than numerical sequence. Cars normally follow each other at timed intervals. However, if a car is quickly loaded, an automatic load weigher starts it ahead of time. Then, the next car follows the quickly loaded car at the normal time-interval.

Cars waste no time in needless travel to the top terminal. They answer their highest call, then reverse automatically and return to the lobby.

Autotronic—WITHOUT ATTENDANT—Elevatoring saves up to $7,000 a car, each year. It operates the cars automatically and as a coordinated group. It has 6 automatic operating programs to handle a busy day's traffic. It is suitable for large office buildings, hotels, and hospitals. Yet, it is adaptable to small ones.

Ask any of our 266 offices about new or modernized installations.
Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.

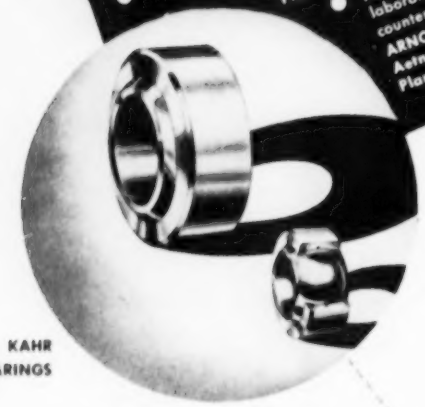
BETTER ELEVATORING IS THE BUSINESS OF OTIS

THESE ARE AETNA STEEL PRODUCTS

- Prefabricated hollow metal walls — E. J. BOYLE DIVISION, Aetna Steel Products Corporation Plant: Brooklyn, New York
- Ship Joiners, Designers, Contractors — AETNA MARINE DIVISION, Aetna Steel Products Corporation Plant: Pottsville, Pennsylvania
- Self-aligning, hi-load, two-piece bearings — KAHR BEARING DIVISION, Aetna Steel Products Corporation Plants: Bridgeport, Connecticut; Burbank, California
- Hollow metal doors, door frames, sliding closet door units, elevator enclosures, hollow metal trim — AETNA STEEL PRODUCTS CORPORATION Plant: Pottsville, Pennsylvania
- Marine furniture, hospital and laboratory equipment, metal bank counters, packaged office units — ARNOT DIVISION, Aetna Steel Products Corporation Plant: Jamestown, New York

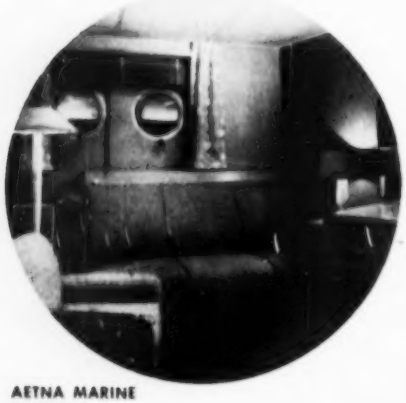
AETNAWALL
Office Partitions

ARNOT
Packaged Office Unit



KAHR BEARINGS

AETNA DOORS AND DOOR FRAMES



AETNA MARINE DIVISION
Ship Joiners, Designers, Contractors

STEEL PRODUCTS CONSTRUCTION

AETNA STEEL PRODUCTS CORPORATION

730 FIFTH AVENUE, NEW YORK 19, NEW YORK

FAST measuring of sun loads!

Do you have sun heat or glare problem?
Are you considering air conditioning for jobs "on the board?"
Is classroom lighting and glare control a problem?

If these are problems in your office, Ingersoll has the answers for you. Ingersoll KoolShade® Sunscreen distributors are equipped and prepared to supply architects and engineers with the "Ingersoll Sun Position, Heat Gain and Shading Data Calculator." With the latitude and azimuth of a building known, this scientifically engineered slide-calculator will instantly give you the sun altitude any day of the year as well as the relative sun-window azimuth, shadow angle and the amount of radiation transmitted through bare windows and through those protected by KoolShade. All of this in minutes for one elevation . . . where it took hours of pencil and paper figuring previously. Different inserts in the calculator give these figures for latitudes from 26° to 46° North.

No other manufacturer has ever offered such a time-saving device for calculating sun-heat loads. Your KoolShade distributor can supply one of these Calculators . . . and an appraisal of KoolShade for a sun load problem. Write for yours today.

Get Your Calculator Today—
A small charge is being made for this convenient tool. The calculator and one latitude-slide costs $2.00 and additional latitude-slides cost $1.00 each. Latitudes include 26°, 30°, 34°, 38°, 42° and 46°*. Send the coupon today.*

*90 day delivery

BW

Ingersoll KOOLSHADE® Sunscreen

Copyright 1953, Borg-Warner Corp.

Ingersoll Products Division, Dept. 22K
Borg-Warner Corporation
310 So. Michigan Ave., Chicago 4, Illinois

Please have your distributor deliver Calculator and slide for the following latitudes: _____ North. Also complete information about KoolShade.

Name _____ Position _____

Firm Name _____

Street Address _____

City _____ Zone ____ State _____

Cost of Calculator and one Latitude $2.00, each extra Latitude $1.00

for better drainage lines

CHASE COPPER TUBE

CHASE

Smooth inside surfaces assure even flow!

Corrosion-resistant, of course!

Entire system lightweight, easily installed!

Fittings trim and compact!

CHASE Copper Fittings are water-tight, pressure-tight!

Chase Copper Tube with Chase Solder-Joint Fittings for waste, vent and soil lines can be installed rapidly . . . more economically...do a better drainage job . . . last longer.

You get a *lightweight system* that can be easily assembled and handled on the job. Pipe and joints are rugged enough to take hard knocks. 20 foot lengths need fewer joints.

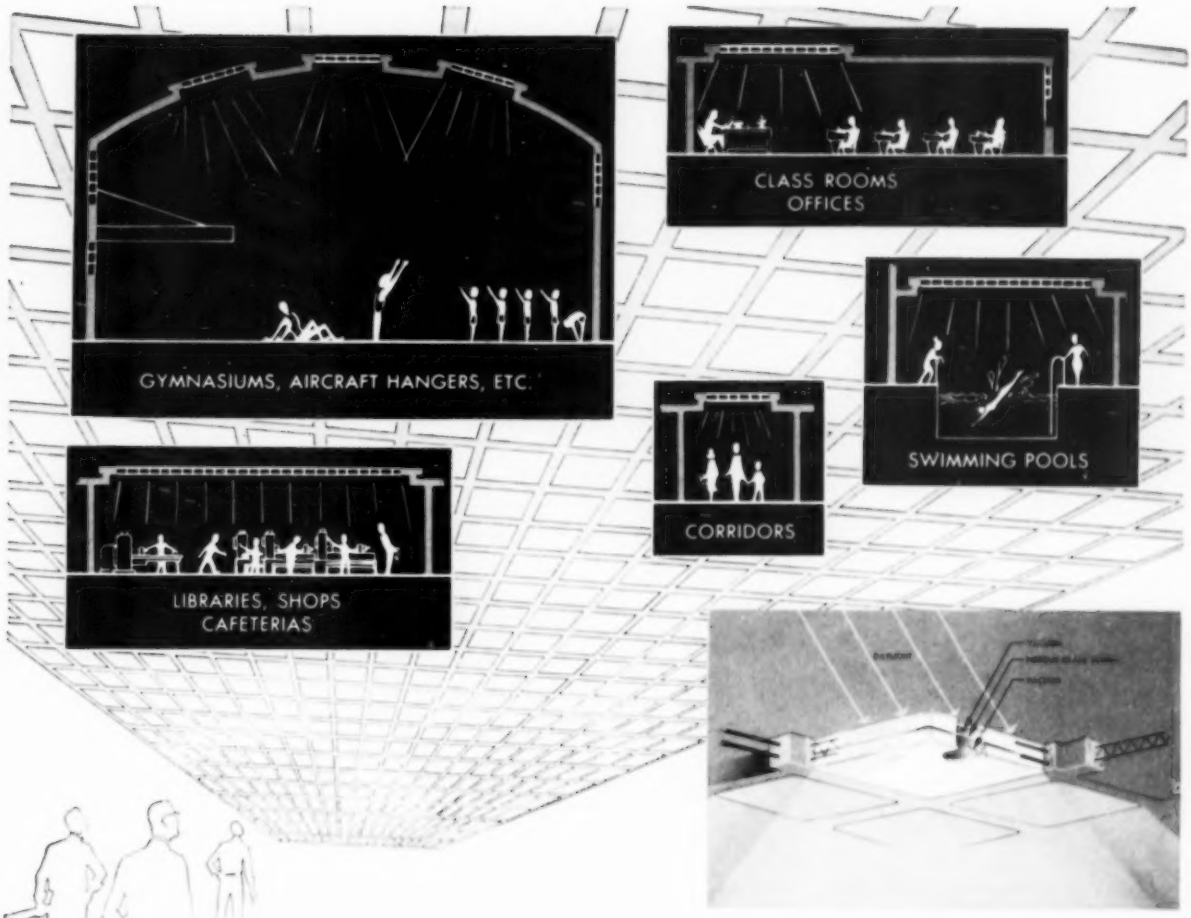
For complete information, see your Chase wholesaler.

Chase BRASS & COPPER

WATERBURY 20, CONNECTICUT • SUBSIDIARY OF KENNECOTT COPPER CORPORATION

The Nation's Headquarters for Brass & Copper

Albany†	Cleveland	Kansas City, Mo.	New York	San Francisco
Atlanta	Dallas	Los Angeles	Philadelphia	Seattle
Baltimore	Denver†	Milwaukee	Pittsburgh	Waterbury
Boston	Detroit	Minneapolis	Providence	
Chicago	Houston	Newark	Rochester†	(† sales office only)
Cincinnati	Indianapolis	New Orleans	St. Louis	



Here's a new approach to *toplighting*

Skytrol glass blocks—a new toplighting medium—now give the architect a sturdy, flexible design unit that overcomes these three big objections to skylights: high heat loss, condensation and costly maintenance. The double cavity created by the fibrous glass insert gives the Skytrol Block a "U" value of .44, thus reducing heat loss and practically eliminating condensation. These new skylight blocks are self-cleaning, and they reduce other maintenance costs to an absolute minimum.

Skytrol panels are installed only slightly above the roof line, in concrete, thus they do not create unsightly superstructures to interfere with clean, modern lines. Each block is 11¾" x 11¾" x 3⅞" and contains an integral fibrous glass diffusing screen and corrugated bottom face to diffuse the light and spread it throughout the room.

Now you can inject a new design principle into the problem of daylighting corridors, libraries, auditoriums, industrial buildings, office spaces, and other areas where toplighting is practical. Send the coupon for more information about Skytrol Blocks.

SKYTROL PITTSBURGH PC CORNING

Pittsburgh Corning Corporation
PITTSBURGH 22, PA.

Pittsburgh Corning Corporation
Dept. AC-53, Pittsburgh 22, Pa.
Please tell me more about PC Skytrol Blocks for toplighting.

Name ..... Title .....

Firm .....

Address .....

City ..... Zone ... State .....

A Ruberoid WELCOME

Under its whirling rotor blades, 2500 squares of Ruberoid built-up roofing tell this Piasecki H-21 "Work Horse" helicopter that it's home again. From the air, this Ruberoid roof marks the spot where the Piasecki Helicopter Corporation has pioneered the development of tandem helicopters. Piasecki helicopters are proving their value daily with the Army and Navy. The Air Force soon will be using them.

What Piasecki is doing for aviation, Ruberoid did for roofing. More than 60 years ago, the same type of pioneering spirit inspired Ruberoid technicians to produce the first roll of asphalt roofing ever made. Today, Ruberoid provides a complete range of Built-Up Roofings to meet every condition and every need. Included in the Ruberoid Specification Book are roofs strong enough to land a Piasecki Helicopter, as well as garden roofs and water-cooled roofs. You're sure to find the perfect solution to all your roofing problems in this handy book. So write for your free copy today or consult Sweet's Architectural File, Section 8A/RU. The Ruberoid Co., 500 Fifth Avenue, New York 36, N. Y.

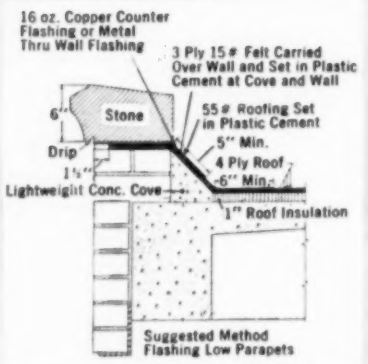
PIASECKI HELICOPTER CORPORATION
Morton, Pennsylvania

Architect:
Rosengarter & Kraemer

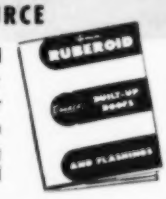
General Contractor:
Wark & Co., Philadelphia

Roofing Contractor:
Geo. H. Duross, Inc., Philadelphia

RUBEROID RECOMMENDATION
(A typical detail example from the Ruberoid Specification Book.)


16 oz. Copper Counter Flashing or Metal Thru Wall Flashing
3 Ply 15# Felt Carried Over Wall and Set in Plastic Cement at Cove and Wall
6"
Stone
55# Roofing Set in Plastic Cement
5" Min.
Drip
1½"
4 Ply Roof
6" Min.
Lightweight Conc. Cove
1" Roof Insulation
Suggested Method Flashing Low Parapets

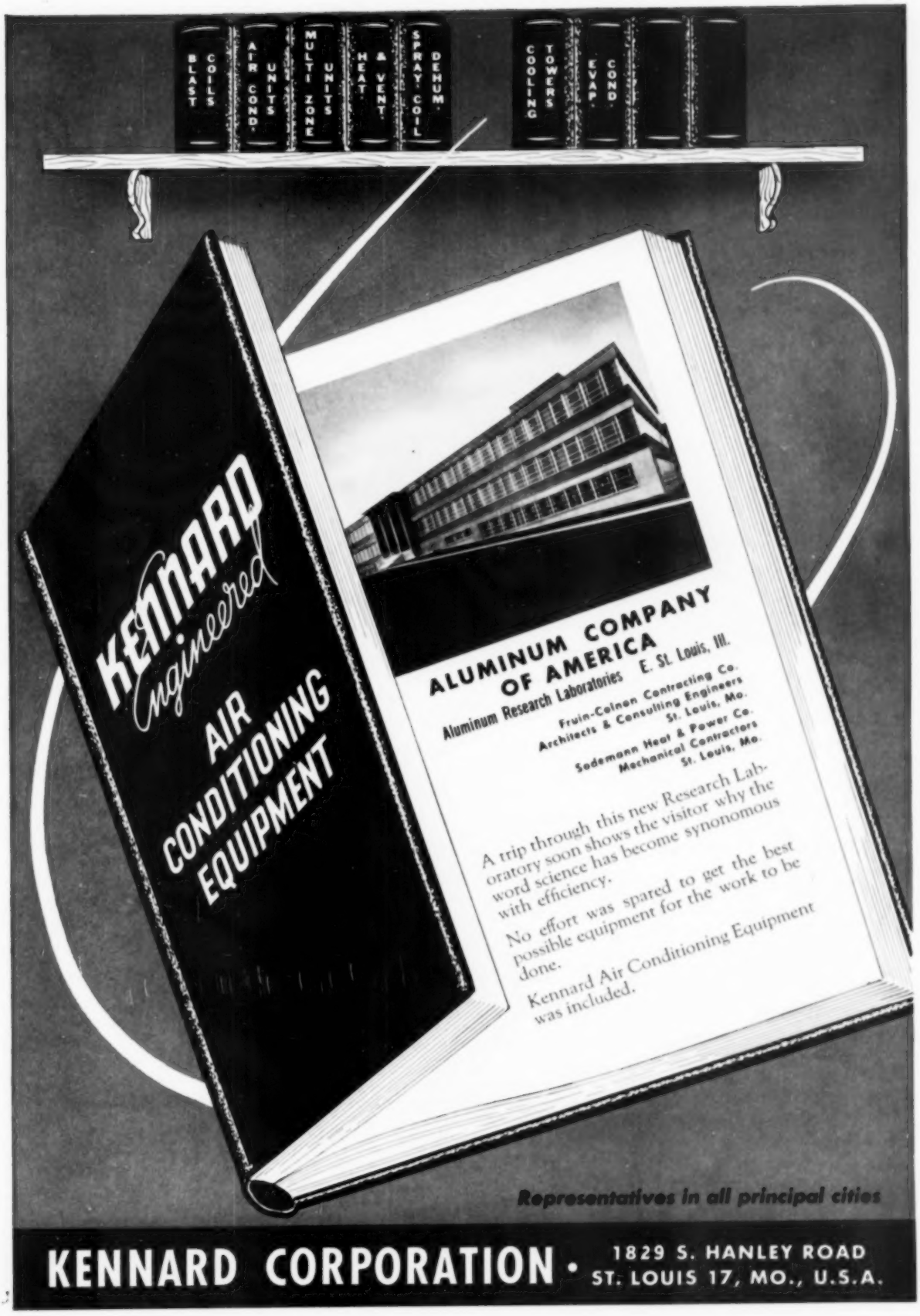
THE RIGHT ROOF FOR ANY JOB — FROM ONE SOURCE



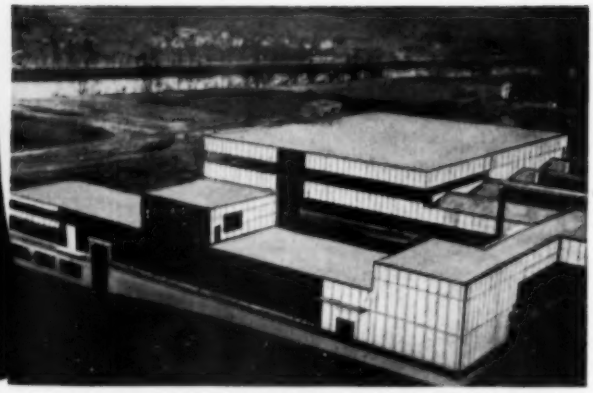
Smooth Surfaced Asbestos, Coal Tar Pitch with gravel or slag surfacing, smooth or gravel-and-slag surfaced Ruberoid Special Bitumen . . .
You'll find specifications for every type of Built-Up Roofing in the Ruberoid book. Ruberoid Approved Roofers will help you select those that best meet the particular needs of every job.

The RUBEROID Co.

ASPHALT AND ASBESTOS BUILDING MATERIALS

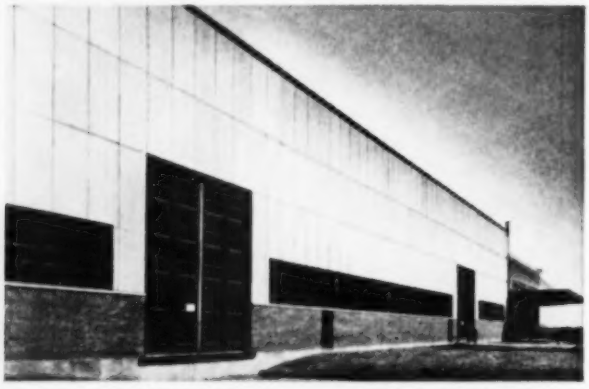

BLAST COILS
AIR COND. UNITS
MULTI ZONE UNITS
HEAT & VENT.
SPRAY COIL DEHUM.
COOLING TOWERS
EVAP. COND.
KENNARD Engineered
AIR CONDITIONING EQUIPMENT
ALUMINUM COMPANY OF AMERICA
Aluminum Research Laboratories E. St. Louis, Ill.
Fruin-Colnon Contracting Co.
Architects & Consulting Engineers
St. Louis, Mo.
Sodemann Heat & Power Co.
Mechanical Contractors
St. Louis, Mo.
A trip through this new Research Laboratory soon shows the visitor why the word science has become synonomous with efficiency.
No effort was spared to get the best possible equipment for the work to be done.
Kennard Air Conditioning Equipment was included.
Representatives in all principal cities
KENNARD CORPORATION • 1829 S. HANLEY ROAD ST. LOUIS 17, MO., U.S.A.

Curtain walls of Cemesto® Panels cut cost of industrial buildings



B. F. Goodrich encloses complete Marietta, Ohio, building with 42,000 sq. ft. of Cemesto Panels. Contractor: J. M. Udan, Wheeling, W. Va.

Attractive, economical use of alternate bands of glass and Cemesto Panels for power plant. Goodyear Tire & Rubber Co., Jackson, Mich.



Unique beauty of Cemesto Panels in a curtain wall. Curtis-Wright Corp., Louisville, Ky. Architect: Albert Kahn Associates, Inc., Detroit, Michigan.

You can speed the construction and reduce the cost of industrial and commercial buildings of every type—with quickly erected, permanent, insulated curtain walls of Cemesto Insulating Structural Panels!

Each Cemesto Panel is a complete, *self-contained* curtain wall unit combining high insulation value—great structural strength—pleasing interior and exterior finish. Quickly attached to steel framing with metal clips, or to wood framing or wood members with nails. Standard sizes readily adaptable to cost-cutting modular erection techniques.

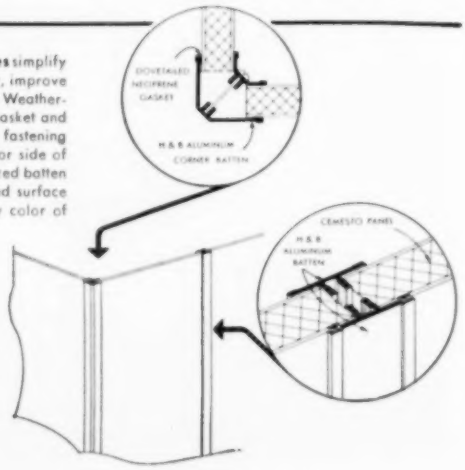
Cemesto Panels consist of a core of Celotex® cane fibre insulation, with *non-combustible* cement-asbestos facings bonded to both sides by a vapor-resistant, moistureproof adhesive. They resist fire, weather and wear. Their insulating core is protected by the patented Ferox® process from dry rot and termites.

The smooth, hard, stone-gray surfaces of Cemesto Panels have high light reflection value. Left unpainted, they provide attractive interior and exterior finish—*never need maintenance.* Cemesto Panels combine harmoniously with brick, stone, wood and glass, or can be used as the sole curtain wall material. Easily demountable, fully salvageable.

Write for information on how to erect curtain walls, roof decks and partitions—faster and at lower cost—with Cemesto Panels. The Celotex Corp., 120 S. LaSalle St., Chicago 3, Ill.

New Aluminum Curtain Wall Accessories simplify application of Cemesto Panels, save labor, improve appearance. Trim, new H & B* Aluminum Weatherstripping Battens have built-in neoprene gasket and continuous thread channels for engaging fastening bolts. Since bolts are applied from interior side of curtain wall, the exterior face of the anodized batten presents a smooth, unbroken, satin-finished surface which blends harmoniously with the gray color of Cemesto Panels.

*H & B Enterprise Corp., Trenton, N. J.



Another CELOTEX *Product*

CEMESTO

REG. U. S. PAT. OFF.

INSULATING STRUCTURAL PANELS

The Celotex Corporation, 120 S. LaSalle Street, Chicago 3, Illinois

Another Important Installation of HOLOPHANE REFRACTOLENS*

At the GREATER

PITTSBURGH AIRPORT

•

Units in the Building Face
Light the Loading Areas

The new Greater Pittsburgh Airport is the most modern airplane Terminal in the world. It is a tribute that Holophane REFRACTOLENS units have been used to light the airport's loading space. These units recessed at two levels in the face of the building follow modern trends in lighting. They produce remarkably effective lighting with five footcandles across the walkways and out to the stairs for boarding planes, 60 feet from the building. Two sizes of REFRACTOLENS units, equipped with visors, were used: lower units, 300 watts each; upper units, 750 watts . . . One more significant result of Holophane research and prismatic light control . . . Architects and engineers are invited to consult Holophane Engineering Service.

James Paul Warner—Consulting Electrical Engineer
Theodore Eichholz—Supervising Architect
Joseph Hoover—Consulting Architect

Holophane

*®

HOLOPHANE COMPANY, Inc.

Lighting Authorities Since 1898 • 342 MADISON AVENUE, NEW YORK 17, N.Y.
THE HOLOPHANE COMPANY, LTD., THE QUEENSWAY, TORONTO 14, ONTARIO

A VERITABLE Bulldog OF A FLOOR!

'INCOR' CUTS CONCRETING COSTS 35% ON HEAVY-DUTY FLOOR FOR MACK TRUCK'S 8½-ACRE NEW JERSEY PARTS WAREHOUSE

MACK TRUCK INC. PARTS DIVISION
Bridgewater Township, N. J.
Contractor: **D. O. EVANS**, Hillside, N.J.
Architect: **HERMAN F. KUZEL**
Dunellen, N. J.
Ready-Mix 'Incor' Concrete:
COMMONWEALTH CONCRETE CO.
Bound Brook, N. J.

● The more popular the truck, the greater the need for good service facilities, supported by a reservoir of parts, such as this huge, new MACK TRUCK Parts Warehouse, near Somerville, N.J.

Mack builds stamina into its trucks, and it engineers this quality into buildings, too. Witness the use of 'INCOR' 24-HOUR CEMENT for heavy-duty floors in this 8½-acre warehouse.

Easy-working 'Incor' mixes cut placing and finishing costs. Example: The Ready-Mix Operator on this job was unable to supply 'Incor' for several days, and *D. O. EVANS, Hillside, N.J., General Contractor, says that, on switching back to 'Incor', his costs dropped 35%.*

Above all, 'Incor' helps assure a stronger, longer-lasting floor, by curing *thoroughly* in the short time concrete can be kept wet—and thorough curing is vital to wear-resistance.

With 1-day curing, 'Incor' produces at 1 year 40% higher strengths than even Lone Star Cement concrete—and 'Incor' cured 1 day has less absorption than ordinary portland cement concrete cured 7 days.

For extra years of service—for a veritable bulldog of floors—use 'Incor'*, America's FIRST high early strength portland cement.

*Reg. U. S. Pat. Off.

LONE STAR CEMENTS COVER THE ENTIRE CONSTRUCTION FIELD

LONE STAR CEMENT CORPORATION

Offices: ABILENE, TEX. • ALBANY, N. Y. • BETHLEHEM, PA. • BIRMINGHAM
BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS
KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK
PHILADELPHIA • RICHMOND • ST. LOUIS • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 18 MODERN MILLS, 129,000,000 SACKS ANNUAL CAPACITY

TWENTIETH CENTURY BUILDING TYPE

airport terminal buildings

This study has been prepared by the Editors of Progressive Architecture, *and the opinions and conclusions expressed are theirs. Technical advice and assistance have been received from:*

Nicolas R. Arroyo, Architect; Havana, Cuba.
John Grisdale, Architect; Carroll, Grisdale & Van Alen, Philadelphia, Pennsylvania.
Albert F. Heino, Architect; Chicago, Illinois.
Francis R. Meisch, Architect; Minneapolis, Minnesota.
Walther Prokosch, Architect; Knappen, Tippets, Abbott Engineering Company, New York, N. Y.
And staff members of the Civil Aeronautics Administration, Department of Commerce, Washington, D. C.; Phillips Moore, Director, Office of Airports; including:
H. Orville Varty, Chief Airport Architect
James Hoban, Airport Architect
Paul H. Stafford, Chief, Airport Planning Division

introduction

Air transportation is a factor in American life which has gained in importance since the last war at a rate greater than—but in a direction different from—estimates of five years ago. Private "cub" flying has not reached the proportions anticipated. Commercial flying has so far exceeded expectations that estimates of passenger volume for 1955 were passed in 1951. The use of company "executive" planes has increased to unexpected proportions. There will be much architecture related to aviation in the years ahead; to aid the architect and the engineering consultant who become involved, P/A offers this study.

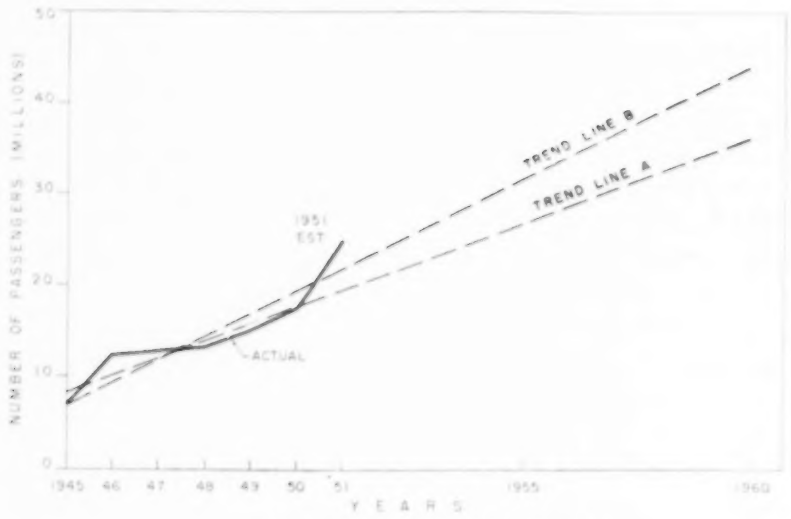
The architect or engineer who approaches this field of design will find it interesting, challenging—but extremely complicated. The confusion lies in the economic position of the airlines: not all of them can pay their way, even with unsated demand for air travel. Government support through air-mail payments keeps many lines in business and makes possible the feeder lines, contact points for thousands of small communities. And even despite difficulties in finding decent terminal facilities, the "non-scheds" seem to point to the possibility of a profitable business enterprise in this field without subsidy. Cargo handling has reached proportions which make it a major activity, but it is still bound to passenger operations in most instances. Terminals are needed, but difficult to finance. Commercial activities, then, related only incidentally to air travel, are given major importance. The designer's desires to solve functional circulation problems for the passenger and for the operations staff are often impeded and frustrated by these facts.

Airports should be related to community and regional planning—but the planner will find that most airport sites are already in operation with capital investments that make change of locations unlikely. The airlines, federal government agencies, city, county, and state governments, and private economic consultants all must be satisfied; hence the designer has a multiplicity of "clients" to satisfy. Even among the airlines there is often disagreement; and when competitive demands of concessionaires and needs of management are added to the planning turmoil, it is not easy to avoid a compromise solution. Difficulties blocking the standardization of aircraft design, such as manufacturers' competition and the varied problems of the airlines, make facilities elaborate and more complex. Developments in the use of helicopters and the growth of jet-plane transportation for passengers and cargo are still difficult to assess.

After studying hundreds of airport terminal buildings, the Editors of P/A conclude that very few of them solve well the fundamental problem of getting the passenger from ground transportation to air carrier with as little inconvenience and expense as possible. Simple circulation patterns become inexplicably complicated. The terminal building develops into a shopping center instead of a traffic station. A monument grows where it has no meaning; design appropriate to air travel, often found in the hangars on the field, is seldom attained in the terminal building. Flexibility and provision for expansion—prime criteria in a building type whose future no one can predict accurately—are lost because of structural or planning rigidity.

The National Airport Plan for 1953, of the Civil Aeronautics Administration in the Department of Commerce, indicates a need over a three-year period for 2232 airports and improvements at 2583 others, for a total expenditure of $650 millions. Some projects are under way; many are not yet started. Here is a real challenge to the design professions to restudy the entire problem, to produce airport structures which will be efficient and imaginative. In the pages that follow the problem is discussed, and the best of the work to date is reviewed.

PROGRAMMING



GROWTH PATTERNS OF AIRLINE PASSENGERS. *Trend line "A" indicates 1945-51 "peacetime" pattern; marked rise in "B" reflects spectacular expansion of economy during 1951.* Illustrations: see page 189

community needs

The planning approach to airport terminal buildings is similar to any architectural problem in that the stages are:

Program development;
Site selection and master planning;
Circulation and functional relationship studies;
Preliminary planning and necessary approvals;
Final planning and detailing.

It differs from other building types in emphasis of time allotment. Programming is of major importance, because an over-ambitious terminal is a drain on the community; and yet an understated program will soon become apparent in a crowded and inefficient building. Time spent on preliminary design and approvals at that stage will be more than saved later. Master planning and structural and functional planning for future and intermediate expansion are of major importance in an activity growing and changing so rapidly.

The various factors that are important in the development of the program are outlined in the following pages. No matter what the character of the airport, no matter how isolated it may appear to be, community-need studies come first. Their purpose is to discover, as accurately as possible, the community's airline-traffic potential. This can be arrived at almost by formula, and Civil Aeronautics Administration has excellent data for the planner to consult (*bibliography on page 196*). In actual practice, it is largely a matter of counting noses at the present terminal facility, projecting present activity on the curve of estimated national growth (CAA's projection factor for 1960 is 2.3 times 1950 traffic) and making adjustments because of certain community characteristics.

Basic community economic types which CAA has discovered to have very different air travel needs are: (1) marketing centers; (2) industrial cities; (3) "balanced" cities; (4) institutional cities. Each group represents a difference in per capita purchasing power. Each provides a unique pattern of income distribution and business travel habits. There then exists a different potential for aviation goods and services. Within these groups there may, of course, be further important peculiarities. A resort community, a town in which there is a famous medical center—these have typical needs which must be evaluated. Further adjustments must be made for possible changes in the community economic type; for type and condition of local airline service; for the possible local promotion of airport facilities, and probable efficiency of airport management; and for the aid to or the drain upon air travel from local travel facilities, by rail, bus, or car. Out of this study comes a statement: (1) of the needs of the community; and (2) of the economic ability of the population to fulfill those needs.

A further preliminary study must be made to determine the community's ability to finance the airport and terminal building program. To achieve the desired passenger potential, the community must develop and support a workable financial program. The federal government currently provides up to 50% of the cost of the terminal building as a part of its activities under the Federal Airport Act (Public Law 377, 79th Congress). The remainder is provided by an instrument (usually a commission or an authority) of city, county, state, or a combination of these.

Revenue sources helping to balance initial financing, operation, and expansion, are the airlines (ironically, often themselves subsidized), various government agencies (whose participation is discussed later in this issue under OFFICE PRACTICE), and private concessionaires. To provide a rational economic program as well as a farsighted one, an attempt must be made to project the future growth and long-term economic capacity of the community to support these revenue-producing media.

air traffic

After studying the community's needs and potentialities, the program planner must relate the community's air-traffic pattern to national developments. Quantitatively, CAA regards an estimate of 40 million airline passengers by 1960 (more than twice the air traffic of 1950) as conservative. As a figure toward which to project, this is the starting point for determining the future traffic of a community. Actually, however, national and local analyses may differ markedly. The local *character* of air-passenger traffic, in terms of relationship with other points on the national network map, is of primary importance. Factors which must be considered include the following:

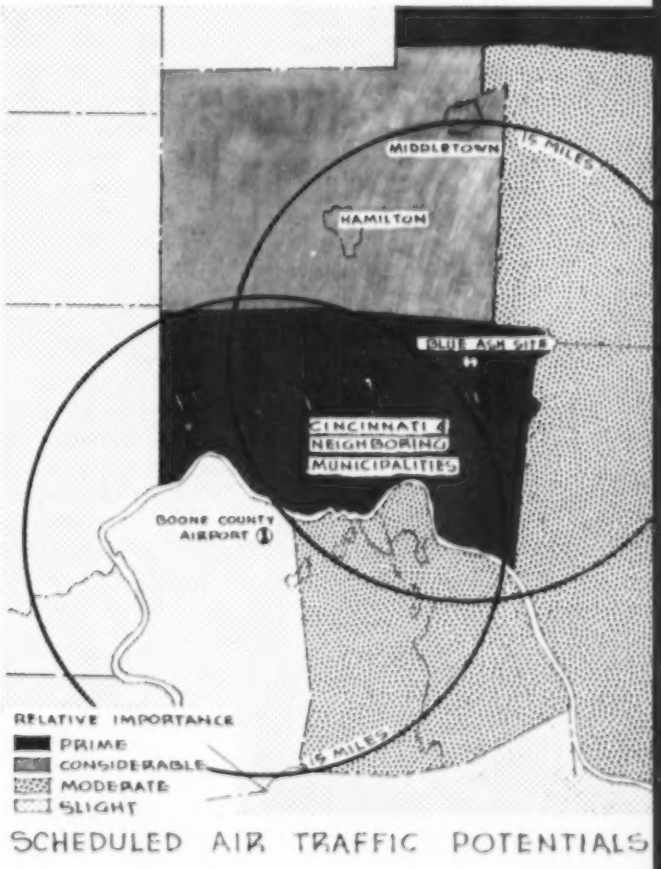
Adequacy of service. It may be that for some reason beyond the control of the community, air-traffic potentials are not being met by airline service. Can this be changed? Will improved airport facilities and demand for service stimulate such changes?

Population and air service in surrounding areas. Is there a regional potential in addition to a community need? Will improved or new facilities draw from other existing neighborhood airports?

Relationship by distance to other communities. Will common interests increase air traffic? Is distance too small (less than 100 miles) to generate *air* traffic relationships? Is present service—or will future be—sufficiently good to insure these traffic relationships? There are certain proven facts and workable formulas that apply. For instance: a city's greatest air traffic is with its nearest neighbor more than 100 miles away; traffic between two cities that far apart will vary inversely with the distance between them.

There are many valuable guides for studies of this sort. Methods of evaluation worked out through experience by planners with CAA are available. Plans of the airlines themselves can be consulted. The possibilities of expansion in other, related communities can be estimated from the National Airport Plan (reissued each year). In most instances such programming studies are made by the community's Commission or Authority, in consultation with specialists. It is most valuable, however, for the architect and his consultant-engineers to understand the basis of traffic programming, so that he can intelligently plan terminal facilities for present traffic needs and for expansion to meet future potentials. Ideally, these studies should be made by a team which at least includes an architect-planner, so that each airport with its terminal facilities can be part of a planned regional and national traffic network in the air.

Cincinnati's metropolitan Master Plan (right) *is part of a study of population, economics, and accessibility—to determine which of two existing fields should be developed as major airport (terminal at Blue Ash site is now under construction). Such metropolitan centers provide greatest proportion of air traffic with smaller communities* (below) *and planners know that supplementary feeder lines, to be successful, must connect to major population points.*



SCHEDULED AIR TRAFFIC POTENTIALS

the carrier

One of the major pitfalls facing the airport planner is a lack of standardization of equipment—the most important being the aircraft itself. Efforts toward standardization would permit speeding up airport schedules and allow the programmer and planner to estimate more accurately the airport needs. In the first place, runway acceptance and departure rates are reduced when aircraft with widely varying performance characteristics are in operation. An unexpected opportunity to study this problem was provided by the Berlin "Airlift." According to official reports, formulas for arrivals and departures on schedule did not work until only one performance-type of aircraft was used. Then time lost between arrival and departure of aircraft could be reduced if design characteristics of planes were similar. Fueling as well as baggage and passenger loading could be simplified, if not standardized. But no two aircraft types have even passenger doors at the same location. No two are the same height above ground, and baggage ports are in various positions on the plane.

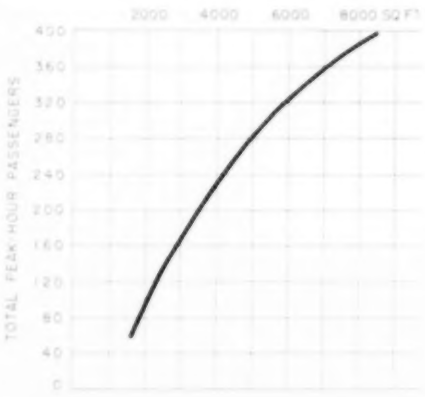
Apparently there are no moves toward this sort of standardization, and apparently the planner will have to use his own best judgment as to what future developments may be. He knows, for sure, only that commercial transport planes are becoming larger and faster; that helicopter services may increase for short hauls and taxi service; that jet-propelled transports are now operated regularly by B.O.A.C. and being rapidly developed by U.S. manufacturers; and that there may be a change in volume of private flying.

The Korean War has illustrated some of the military potential of the helicopter. Its future commercial use is indicated by air-mail services already instituted in some places. No longer does the future of the helicopter lie only in survey, mapping, spraying, and police work—experts feel it may well complement the fixed-wing aircraft in short-haul cargo handling, even short-haul passenger traffic (commuting service, for instance) and become most helpful in taxi service between airports and population centers. The President's Airport Commission last year considered that these possibilities would become realities when rotary-wing aircraft carrying 40 passengers are produced, capable of operating on a favorable cost per ton-mile. At that point, they recommended that "flexible provisions for helicopter operations should be incorporated into airport and air-traffic pattern planning."

Private "cub-type" planes are now a factor in airport planning, largely in their nuisance aspect in traffic control at some of the busier airports. The additional revenue their use may bring to the airport management is limited. Immediately after the war, it had been thought that private flying would reach proportions warranting special airports (such as the one illustrated on page 120), but this has not happened.

On the other hand, what are known as "executive" planes, operated by private companies for their own use, have increased in number until they almost equal the commercial carrier fleet—and they will affect much airport capacity planning in the future.

NEWSPAPER AND NOVELTY CONCESSION *needs are solved by CAA graphing. In the Monterey Airport, Calif. by Architect Robert R. Jones* (below), *it is out of the stream of passenger circulation, but still integrated.*



economics

One of the experts consulted on this issue observed, "the architect has not concerned himself sufficiently with the economic problems in airport planning." It is true that the architectural planner should be thoroughly familiar with all of the economic

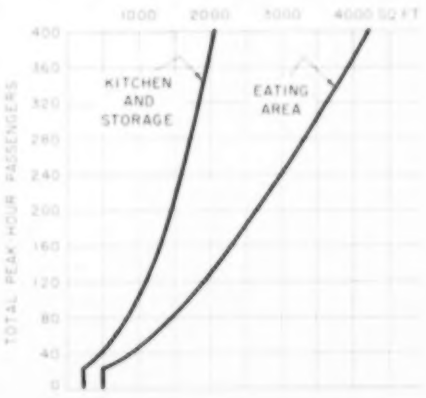
problems involved; it is also true that economic considerations often interfere with functional planning for passenger and airline convenience, and good circulation for purely air-travel purposes. Since the airport cannot be supported financially by the airlines, it must somehow be paid for and operated on a basis that costs the taxpayer as little as possible. The simplest method, and the one most commonly used, is the issuance of revenue bonds—promoted to the bond dealer as a public service and a profitable item, and sold on the basis of economical operations and a demonstrable continuing demand for the facilities at the airport (including the income-producing facilities).

Thus these income-producing spaces are an important part of the program. Their character and size must be realistically established along with other terminal building facilities. In addition to the airline space—which can be accurately determined—they include government-rented offices (comparatively minor income sources); non-airline aviation activities, such as rented hangar space, flying schools, parts dealers; what might be called fee-earning public spaces, such as toilets and rest rooms (so avid are some managements for income that *no* free toilets are provided); and observation-deck space (we have heard of one economic consultant who wanted to paint over the windows looking onto the field, so visitors would *have* to pay to use the observation deck); and finally, various rented concession spaces, from signboards to hotels.

It is in this last category that airport economic programming can go so far from the problems of air travel that it comes in conflict with other economic interests in the community. There seems to be an indecision in some quarters as to whether the airport should be developed as a community center or an air station. Some economic thinking asks "if the regional shopping center can successfully run movies, open auditoriums to the public, and even bring hotels into the grouping, why can't the airport?" Some entrepreneur may prove differently some day, but it seems now that, because the airport is usually in a relatively inaccessible and often an undesirable location from the point-of-view of normal community use, revenue producing concessions must be related to passenger traffic, and cannot easily compete with similar and equal facilities in the population center. Once in a long while, an unusual restaurateur can pull regular dinner business to the airport, away from the downtown restaurants; but many who thought they could do that have found that their business is directly related to air passenger activity.

The concessions which have been proved popular and successful are listed in CAA literature. Eating places and taxi service are of course necessities. But all categories of services from specialty shops to beauty parlors and banks are included. They produce revenue only when they are related to the needs of the visitor and the embarking or arriving passenger—and when the architect understands their functions and proper placement. Thus participation in the economic survey takes on the greatest significance.

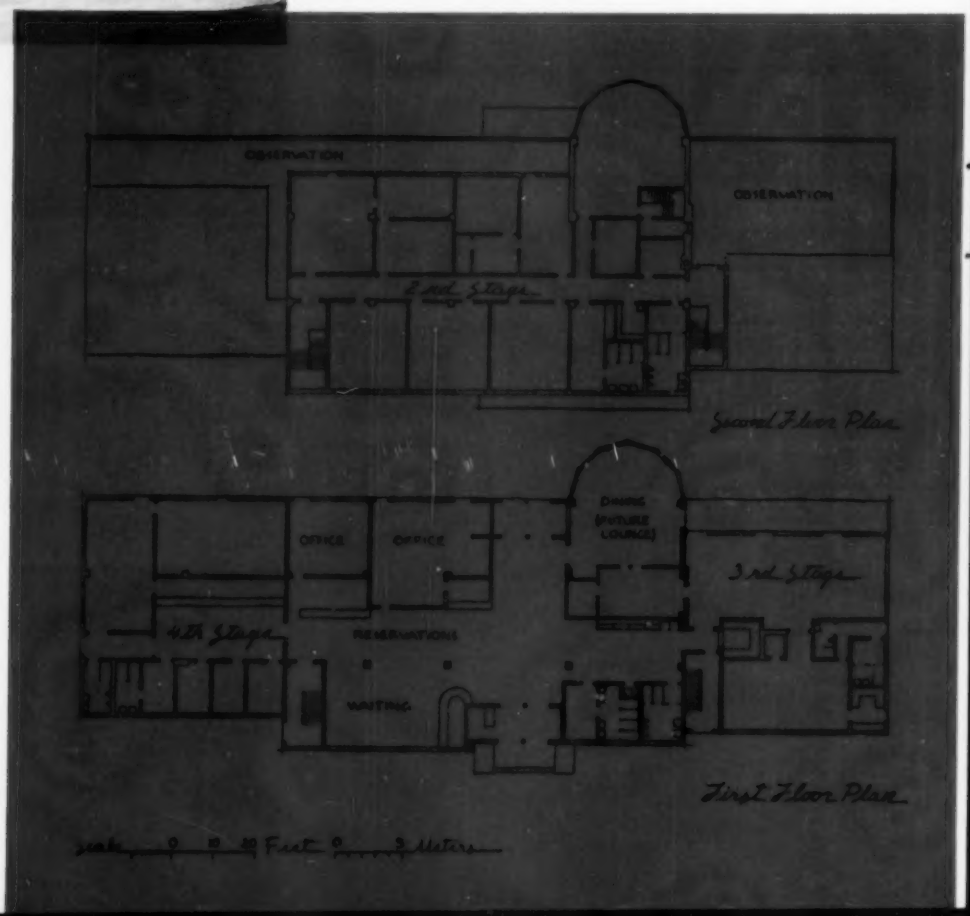
KITCHEN AND DINING FACILITIES *are charted against peak-hour passengers* (below). *The restaurant at South Bend, Ind., adjoins observation deck and private terrace to utilize fully the attractions of aircraft operations. Roy Worden and Vincent Fagan, Associated Architects; Frank Montana, Consultant.*



terminal building space

After community needs, air traffic, and economic considerations have been studied, the program planners will finally come to the great question: how large should the terminal be? The key to the answer and all its parts (how many aircraft loading stations; how much passenger waiting space; how much space for toilets, restaurants, concessions; how much additional space for visitors and sightseers) lies in an estimate of *peak-hour traffic*, according to presently accepted planning methods. The number of passengers utilizing services in the busiest hour of the week also will indicate the activity in the various parts of the air terminal building. In actual practice, this estimate is usually shaved, with a figure more closely approaching average, hourly traffic or "normal," peak-hour traffic used as the key—when for instance, an unusual activity raises the true peak-hour count too far above other busy hours, and the management is willing to face the fact that on some occasion in the future the terminal may be crowded.

As in all rule-of-thumb calculations, various unusual factors will affect the final figures, and the *methods* of calculations are not all agreed upon. In general, here is the way peak-hour passenger traffic is translated into *aircraft* space requirements. Peak-hour passenger traffic is divided by average aircraft-seating capacity (a variable, depending on type of airport; consult CAA and the airlines for this figure) the result represents the number of peak-hour runway operations. Remember that runway operations include take-offs and landings, a plane coming in, taking a normal time on the apron, and taking off has accomplished two runway operations. Studies indicate that *average* commercial aircraft operations at a busy airport require between 30 minutes and 42 minutes ramp-time for each plane. Providing leeway for aircraft ingress and egress, this means that each plane-loading station can handle two to two and one-half runway operations each hour. This is perhaps an over-simplification for planning, but it does seem to be true that, as an average, the maximum number of loading positions in use at any one time is equal to between 40% and 45% of peak-hour runway operations. To state this in



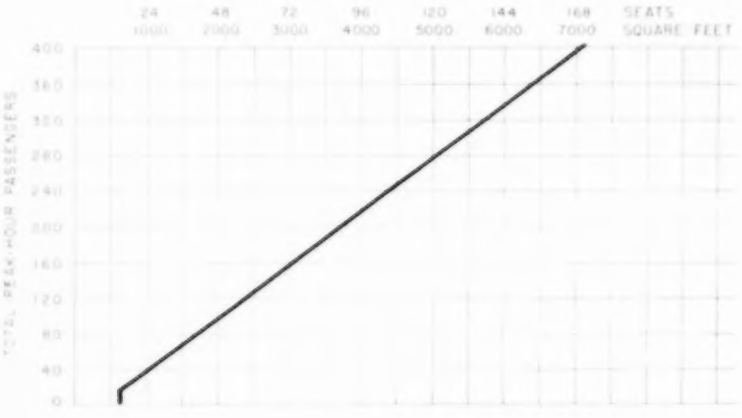
Municipal Airport, Bradford, Pennsylvania (left), *plans to inter-relate future air-cargo docks, light-plane storage, and airplane parking in its four-stage master program over a 20-year period* (below). *Joseph F. Bontempo, Architect for Michael Baker, Jr., Inc., Engineers.*

practical terms, 12 peak-hour runway operations would require 5 loading positions; 25 would require 11 positions, 40 would require 18 positions, etc.

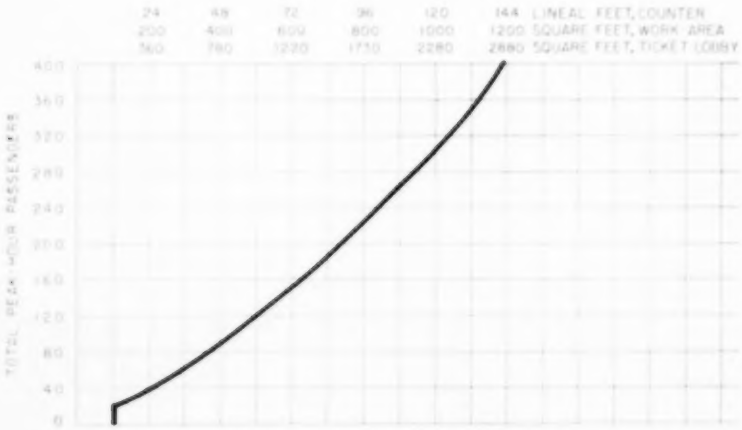
This rule should determine the size of the apron and the number of gates, but the "average" figure must be balanced against runway capacity (a balanced single-runway system is estimated to take 40 operations per hour, optimum, under instrument-landing conditions) because it is possible that more take-offs may occur in some periods, and other airlines operational factors may enter to alter the final figure.

Passenger space requirements can be almost directly translated from the peak-hour passenger figure. Although passengers and visitors mingle in some spaces, the ticket counters and the baggage pick-up space are related directly to the traffic count. Space used also (or exclusively) by *visitors and sightseers*—waiting rooms, toilets, concessions, observation deck—are related to the passenger total by an intermediate factor. CAA indicates that a total of persons somewhere between 1.5 and 4 times the number of passengers actually *enters* an airport terminal building—the median being 2.3 and the variance being differences between small ports (high visitor count) and large. Until now, the planner has been on his own once these figures were obtained; but studies by CAA architects have translated persons to *probable* and *average* space requirements, as in the charts on this spread.

The program, now ready, should be approved by all concerned. Equally important, for the master plan, is a projection of needs into a more distant future, so that planned expansion can take place. Two sets of data should be incorporated into the program—present needs (usually meaning a projection for 10 years) and long-range expectations. The eventual size can then be broken down into units, to be built at several stages of construction. Typical planning today provides the first stage to meet needs for the next 10 years, and an additional stage to meet estimated needs beyond this. The problem for the master planner is to design with sufficient flexibility so that changes in estimates can be accommodated, and yet allow completely efficient operation at each stage.



CAA graph (left) *translates waiting-room traffic into seats per square feet. Limitations of expansion are offset by internal flexibility, as three circulations—waiting, ticketing, and concessions—intermingle within the great volume of The Port of New York Authority Building at Newark, New Jersey, Airport* (above); *A. Gordon Lorimer, Consulting Architect.*



Passenger volume is plotted against square feet of service counters (left) *to determine ticket- and baggage-counter requirements, as at the International Airport, Tampa, Florida* (below); *Eliot Chapin Fletcher, Architect.*

THE SITE

external development

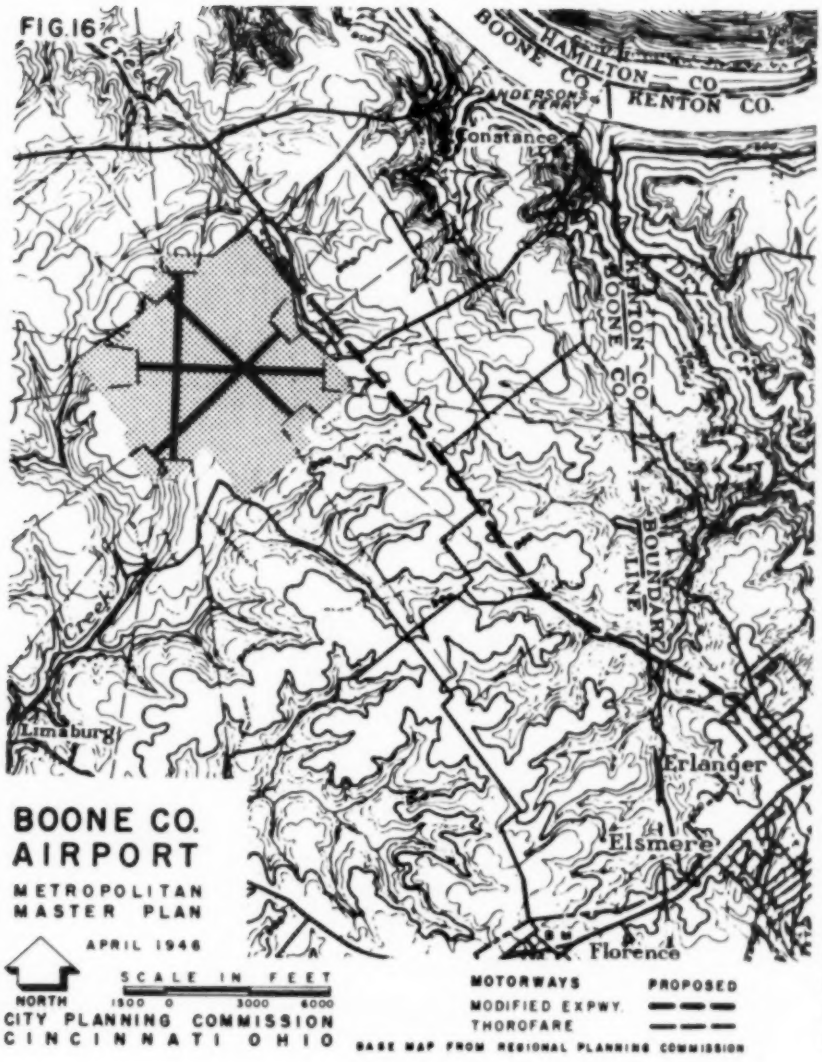
While it is true that few planners of major airports will have the opportunity or the need to choose new airport sites (most *new* airports in the National Airport Plan will be in small communities and of a "feeder" character), there may be instances when a choice between two partially developed sites, for future major expansion, is indicated. The studies made at Cincinnati (*illustrated here*) are a case in point. Factors first considered are principally those of relationship to the community to be served, and regional considerations. Then come matters of visibility and weather characteristics, internal studies of surrounding terrain affecting approaches, soils, and drainage.

The airport must be tied into the city and regional plan. In its report last year, the President's Airport Commission wisely said, "Planning is a tool for bringing about an effective control of the forces (which determine environment). It does this by creating a physical framework in which communities may eventually achieve a desired environment . . . Since airports and airways are an important part of a community's transportation facilities, consideration must be given to the problem of incorporating them into the framework." The airport and air terminal planner, then, must examine the airport site in relation to time-distance to population and commercial centers, relation to ground transportation, noises and dangers to occupied areas, and the relationship to other airports and city growth-patterns.

Accessibility is of prime importance in site selection, and in town planning accompanying site development. Time is the basis of air travel, and time lost getting to or from the airport must be counted as part of the passenger's trip. Time-distance is the factor to consider—not distance alone. A busy approach artery, or one which is likely to be clogged when the airport is fully developed, can dampen its operations as much as an economic drop in the community or poor management at the airport. A regional plan control is important because airports are likely to be located in undeveloped areas. Building will likely take place as the airport activity increases, and traffic will become heavier, increasing the *time* in the time-distance multiple, unless something in the nature of a limited-access highway is developed between town and airport.

Sites should be selected and development around the site restricted, to keep nuisance characteristics of the airport at a minimum. These include noise (which will become greater as jet planes are used) and hazards from plane accidents. Figures show that more people are killed by bicycles than air accidents, but this fact did not restrain the residents of Elizabeth, N. J. from closing Newark Airport after a series of accidents. Yet, unless there is zoning control, property around the airport will continue to be developed, even as residential neighborhoods. The problem is something of a paradox, for land adjacent to airports is usually out of the domain of the city government, and zoning would fall into an area which is usually an administrative never-never land. State control, a clearly defined regional plan, the purchase or condemnation of sufficient land to protect approaches, and finally, the planning of runway and air-traffic patterns to avoid present or foreseeable risks and nuisances, seem the only possible answers at the moment. At this point, a study of the traffic pattern in relation to other airports in the area is important; if there is interference, unconventional flight patterns and distributions may be required, and the best-laid plans for local approach safety may be vitiated.

Just what the criteria should be in this respect, the planner will find it hard to determine. As planes become faster, their approach is at a flatter angle. Not only longer runways are needed, but longer and wider clear-approach areas. The President's Commission last year recommended that no new airport should be planned without clear and, if possible, level approaches at least 1000 feet wide for one-half mile at each dominant runway. But.

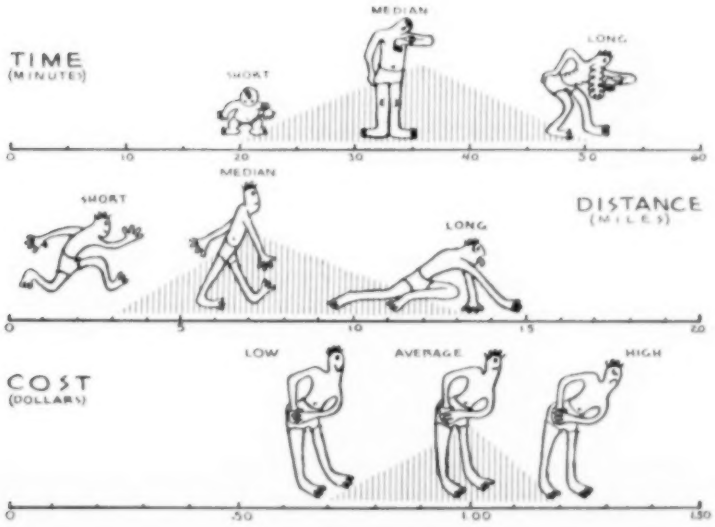


Boone County Airport (left) *serving Cincinnati, was too far separated from residential and industrial areas, despite closeness to city center, and faced risk of floods on approach roads. Master plan studies (see page 73) favored other site.*

certainly future planning should far exceed today's minimum requirements.

Weather studies, though not within the province of the architect, may strongly affect air terminal planning requirements, since maximum utilization of utilities depends on the ratio of instrument landings to clear weather landings. Weather data can be obtained without difficulty by consulting the meteorologist. Wind roses can be devised from this data; and incidence of rain, fog, snow, and other weather hazards can be estimated; but in addition to this, completely local, microclimatological observations should be made. In a very limited sense, it is possible that trees, slopes, swamps, and bodies of water may affect both temperature and wind, producing thereby undesirable climatic results.

For the master plan, then, the airport designer will determine the runway pattern (key to the whole planning process) and locate, in relation to it, the airport buildings. Here fundamental decisions will have to be made which will affect operation of the airport for all time, and here, unfortunately, there may be differences of opinion among experts and consultants. Very recently, many runway configurations which were standard have become obsolete. On the assumption that few planes can land safely in crosswinds of components greater than 15 miles per



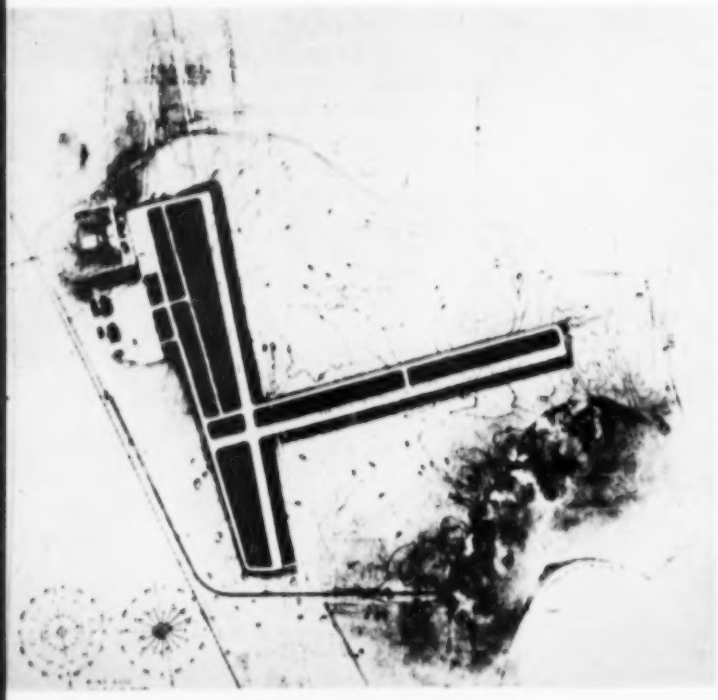
TIME-DISTANCE-COST *charts of ground transportation from airport to typical city centers of the United States* (left). *Prime factor is time—not distance.*

runway patterns

hour, airports have been laid out with runways so variously oriented that this "safe" landing situation would always prevail on one of them. Now, with faster landing speeds and higher wing loadings, the crosswind effect is less. With more general use of tricycle landing gear and the recently certified "crosswind landing gear," most aircraft can now accept crosswind components of up to 30 miles per hour. The President's Airport Commission last year encouraged, ". . . single or parallel runway principles to be applied to most existing airports as well as to future installations." When local wind conditions are so variable that a second directional runway is required, it can be perpendicular and usually shorter than the main one. The benefits are that less acreage is needed for the field, and the approach and departure zones are limited to one direction and relatively narrow corridors. And since the air-traffic pattern is simplified, the possibility of air and ground accidents is reduced. A disadvantage is that simultaneous instrument landings on two parallel runways require that they be some distance apart.

Runway-length requirements have been sharply increased in recent years, and many airports now find their facilities almost unusable: as landing speeds rise, landing requirements increase. Larger turning radii and flatter approach paths make it more difficult to avoid overshooting. Whether this trend may change as jet planes become more prevalent is debatable. Catapult take-off or jato (jet-assist take-off) schemes and parachute drag landings may mean that present runway lengths are adequate, but authorities now strongly urge bringing all airport runway lengths to present standards (8400 feet for intercontinental ports) and planning for expansion to greater lengths (10,000 feet for the larger airport). An interesting variable here is that the "standards" are for sea level, with 59° F. temperature and zero gradient. When elevation is higher, temperature greater, and gradient more, these lengths must be increased.

Whatever the configuration, the location and the design of the terminal building must be related to the runway pattern. In the first place, the number of runways to be planned depends upon the number of aircraft operations anticipated which, in turn, is based on passenger traffic, cargo to be handled, and the volume of private, executive, and military flying expected. In the second place, extension of the building must be inter-related to possible expansion of the runway system. Finally, since aircraft must taxi from runway to apron, and back to runway (and sometimes must taxi to hangar or storage space) and since taxiing aircraft is expensive, the relationship of building to runway is important. There are times—admittedly few—when an obviously desirable location for the terminal building

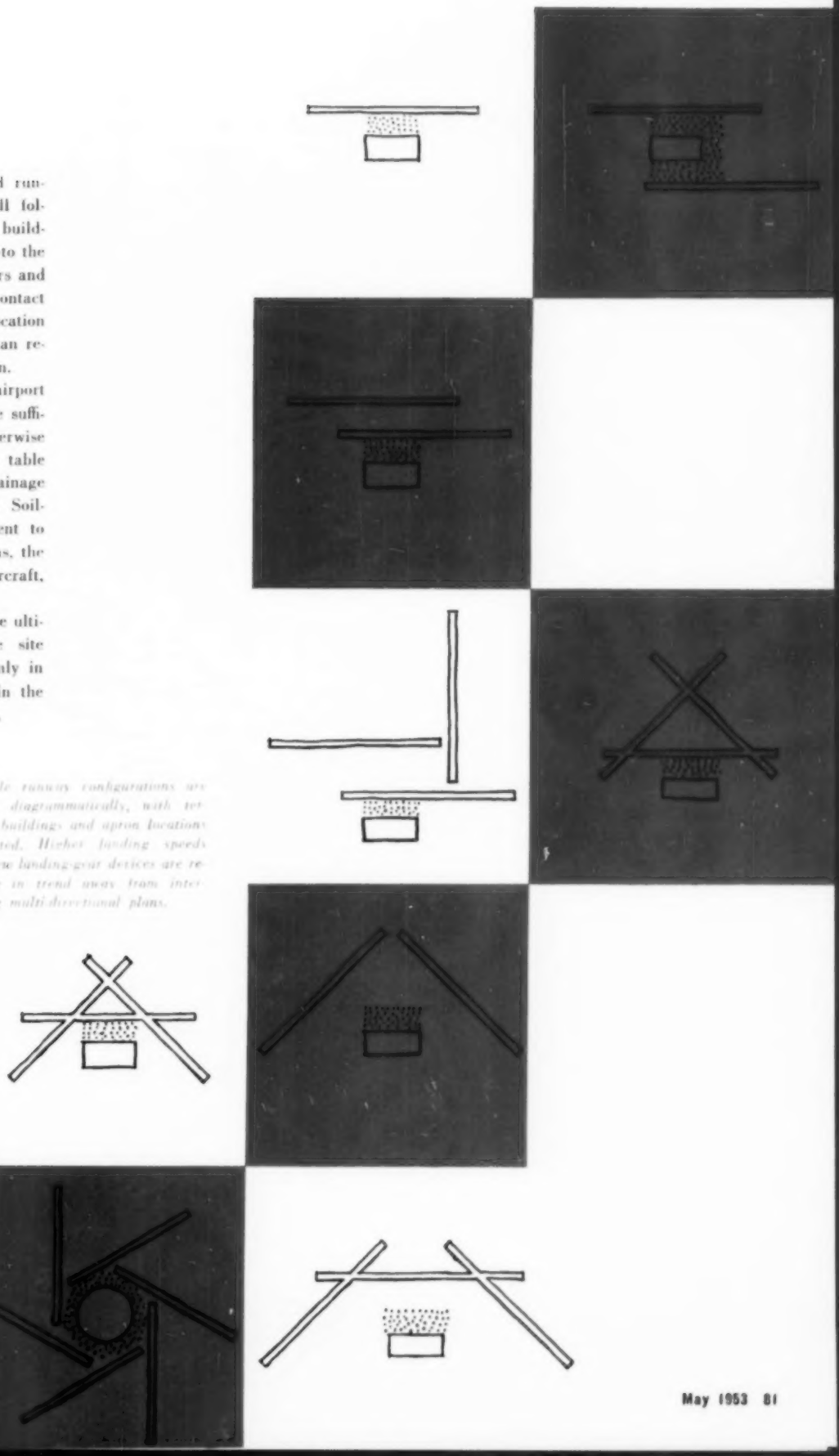


Master plan for Bush Field, Augusta, Georgia, Municipal Airport (left), *prepared by Kuhlke & Wade, Architects, shows major runway parallel to apron which fronts building, at upper left; secondary runway perpendicular to it. Theoretical parallel scheme for two runways* (above) *prepared by CAA architects shows terminal building between runways, apron on one side, approach from community on other.*

will be the first consideration, and runway location and configuration will follow from that. Since the terminal building faces two ways in its function—to the field for contact with the air carriers and also to the approach road for contact with ground transportation—its location in the master plan involves more than relation to a desirable runway pattern.

Physical characteristics of an airport site are important. Slope should be sufficient for good surface drainage, otherwise as nearly level as possible. Water table should be low, so that subsoil drainage is natural or easily accomplished. Soil-bearing capacity should be sufficient to receive, under all weather conditions, the peculiar load characteristics of aircraft, static and dynamic.

Since the master plan will indicate ultimate foreseeable expansion, these site characteristics are important not only in the presently used area, but also in the area set aside for future expansion.



Possible runway configurations are shown diagrammatically, with terminal buildings and apron locations suggested. Higher landing speeds and new landing-gear devices are resulting in trend away from intersecting multi-directional plans.

terminology

The ideal airport terminal would be a smoothly functioning machine. But what should flow with machine precision, too often has become overelaborate and complex. The actual functions, space requirements, and other bases of the program are apt to be forgotten. It seems worthwhile, therefore, to examine some basic definitions.

The success of airport planning hinges upon many elements. The design group must be part architect, part financier, and all wizard. The infinity of forecasts, projections, traffic trends, and estimates may be misleading. Even the word "terminal" is, in itself, deceptive. If our thinking is really in terms of a building as a starting and stopping place and a transit point, a word signifying a conclusion and an ending is misleading; however, to be consistent with common usage and to avoid confusion, P/A employs the words "air terminal" rather than "air station."

For further understanding of the inherent problems of design (and to clarify thinking on the subject), the specialized vocabulary of airport architecture is defined on this page:

traffic

enplaned passengers: a count of all revenue passengers boarding the carrier's planes at each on-line station.

airline passenger potential: the estimated number of airline passengers which could be developed under conditions of reasonable service.

community potential: the estimated number of passengers which could originate at a given city or town during that year.

air cargo: the enplaned tonnage figures for scheduled air lines, as reported for freight and express combined.

air cargo potential: the estimated enplaned tonnage which could be developed under conditions of reasonable service.

site-areas

airport: a landing area used regularly by aircraft for receiving or discharging passengers or cargo.

air terminal: a building or group of buildings used for the unloading or the loading of aircraft and the transfer of cargo to or from ground transportation, usually including as well offices for private and public administration, operation, and control functions.

approach zone: the area leading to the end of each landing strip, within which the approach paths should be kept clear of obstructions.

landing strip: a portion of the usable area of an airport, which is suitable for the landing and taking-off of aircraft under all ordinary weather conditions.

runway: the paved surface of an airport used for the landing and the taking-off of aircraft.

apron (sometimes called ramp): the portion of an airport, usually paved, immediately adjacent to the hangars and the terminal building, used for parking, loading, unloading, and servicing of aircraft.

taxiway: the connecting link, usually paved, between the apron and the runways.

control tower: a structure so situated and equipped as to allow control of air traffic in the immediate vicinity of the airport.

heliport: an airport for helicopters.

touchdown pad: a square or circular area having a contrasting-color safety area for the landing of helicopters.

passengers

passenger index: the number of passengers enplaned at a station annually per each 1000 of the community's population in the previous year.

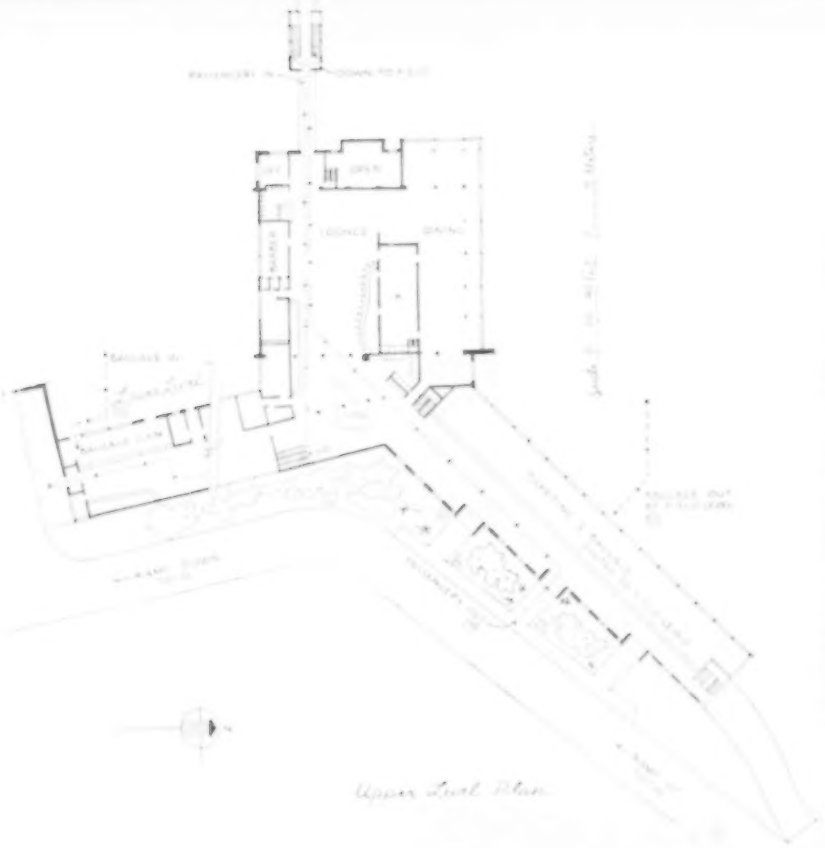
peak-hour passenger activity: the number of passengers (enplaning and deplaning) using airport facilities in a typical busy hour; higher than average hourly activity, but not an unusual absolute peak.

originating and terminating passengers: passengers whose route of flight is beginning or ending.

in-transit passenger: passengers whose route of flight has been interrupted because they are transferring to another plane, because they are waiting while the aircraft is refueled or serviced, because of weather conditions, or for other reasons.

long-haul passengers: enplaned passengers traveling more than three hundred miles.

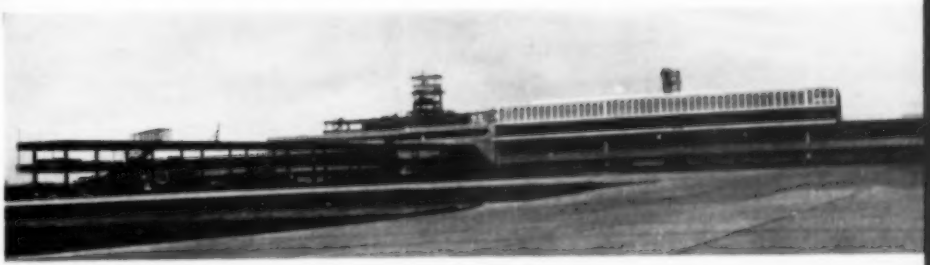
enplaning and deplaning passengers: those passengers in the process of loading and unloading from aircraft.



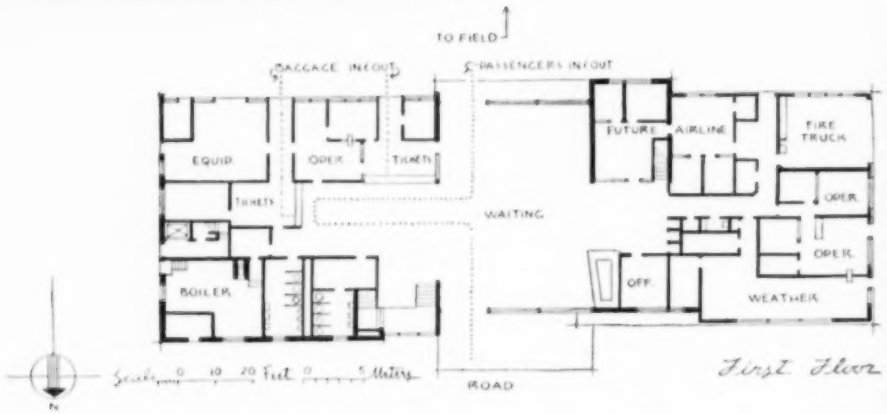
Two levels for passengers and one for baggage could accommodate the more than 500,000 volume of a proposed scheme for the Indianapolis Airport (left). *Preliminary sketches by Architect Edward James (Leigh Fisher & Assoc., Consultants) show airlines ticketing and baggage counters adjoining waiting areas; passage to apron level and cantilevered restaurant viewed from within loading station* (below).

current projects

Glass wall of restaurant slopes in two directions between rigid frames of reinforced concrete for view of operations and planes in flight at Philadelphia International Airport (above). *Architects Carroll, Grisdale & Van Alen employ "fingers" to loading stations, separating baggage, passengers, and observers at different levels* (right).

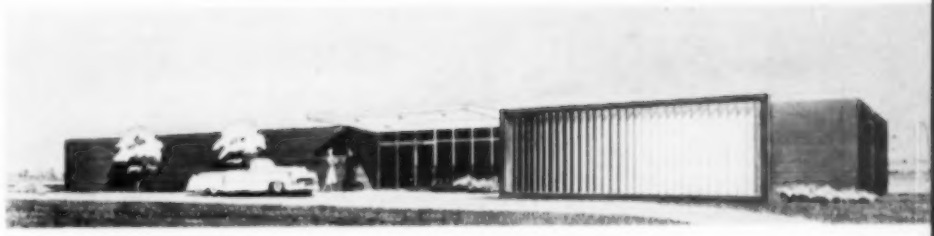


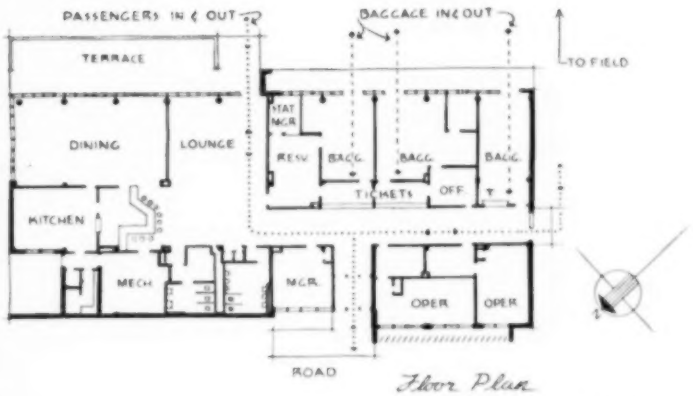
The Municipal Airport at Yakima, Wash. (left), has a core of public functions from which operations radiate. Within this almost monumental volume, giving unobstructed view from entrance to field, "floats" the restaurant, itself commanding a view of all aircraft for visitors and itinerant passengers. Architect John S. Villeswik provided ticketing and baggage counters for two airlines adjoining apron; additional airline facilities will convert existing office and reception areas (below).



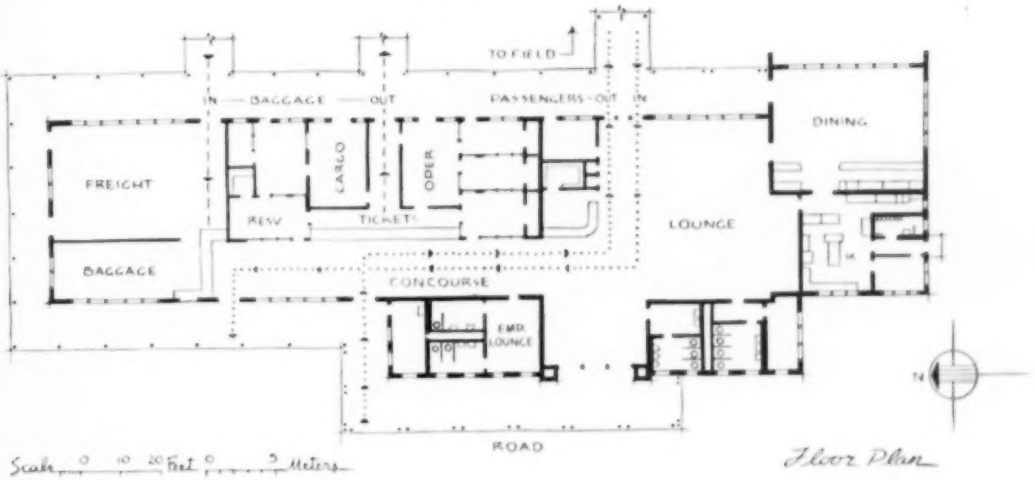
Formerly an Army mess hall, the conversion to this Airlines Terminal Building separated operations within the spans of the laminated arches, yet provided apron contact (above). Air-conditioned, acoustically-treated waiting area permits view of the field, easy thoroughfare for enplaning and deplaning passengers, and access to future outdoor dining terrace (left). Augusta, Ga., Municipal Airport; Kuhlke & Wade, Architects.

Passengers approach field past ticketing counters, while baggage is transmitted from rooms behind to apron. Lounge and restaurant adjoin ticketing areas but are independent of them (below). Phillip Billard Municipal Airport, Topeka, Kans., Architects, Lobeck & Williamson propose structure to reflect scale and character of midwest community by use of brick, louvers, and cantilevered entrance canopy (right).



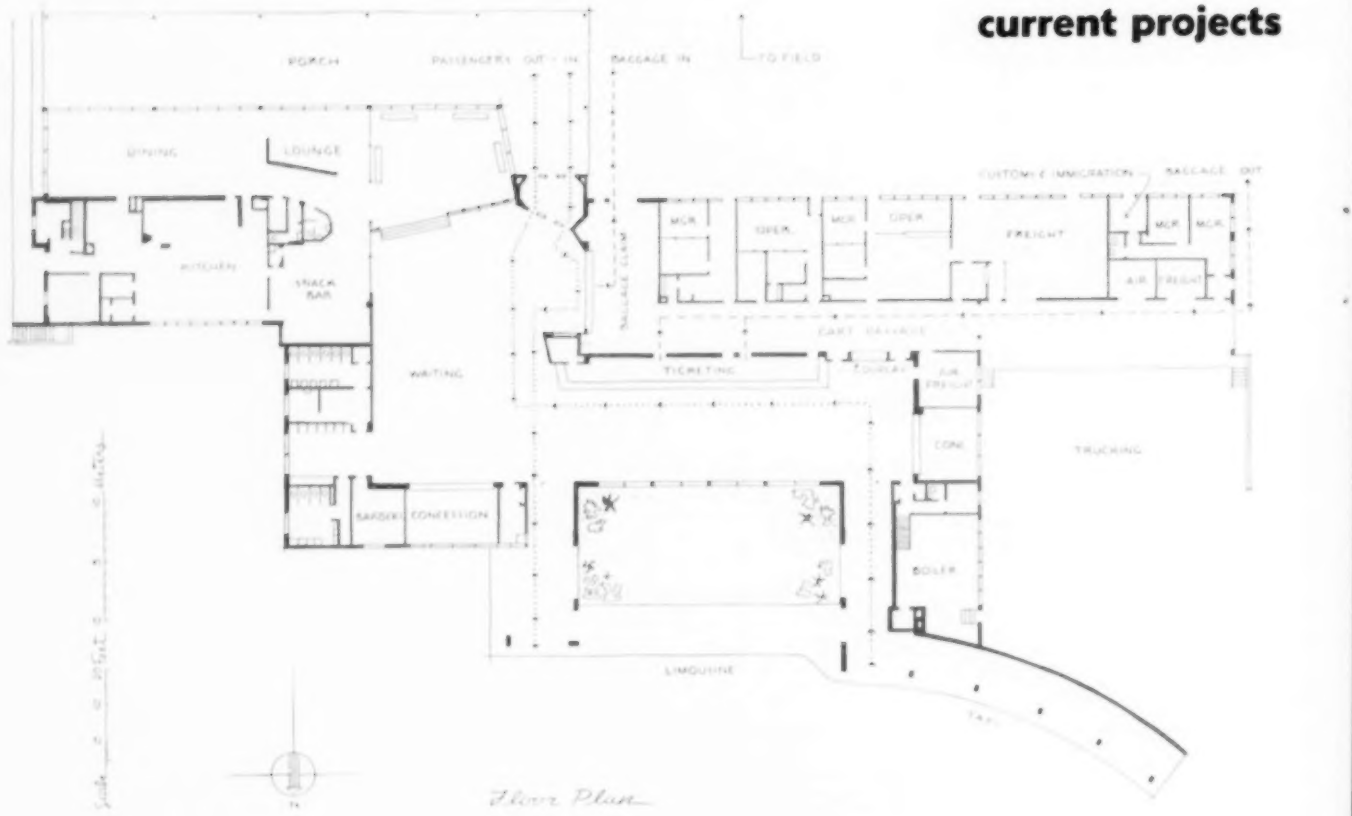


Floor Plan



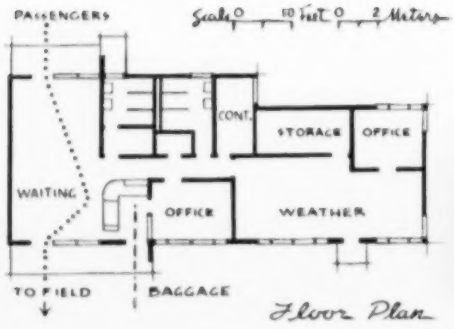
Floor Plan

Ticket-and-baggage concourse routes passengers from buses and limousines to loading stations, with minimum interference from visitors. Pensacola, Fla., Municipal Airport (left); Architect, Frank Sindelar.



Two entrances around a garden at Rochester, N. Y., Airport (above) *permit visitors to enter waiting area while passengers are being ticketed. Ade & Todd, Architects, included a service-cargo court apart from the taxi-limousine entrance. Luggage and air freight are conveyed to apron loading stations by cart concourse. Renderings* (left) *show vehicular approach and clock tower, while visitors, looking through the garden, see passenger entrance and ticketing counters within.*

The Administration Building at Roseburg, Ore., Airport; (below) *is a feeder station in which passengers have through circulation, and operations have complete field control. Architects: Freeman, Hayslip & Tutt.*



basic airport types

While no airport will fall exactly into a typical classification, there are nonetheless broad type categories which the airport designer should understand.

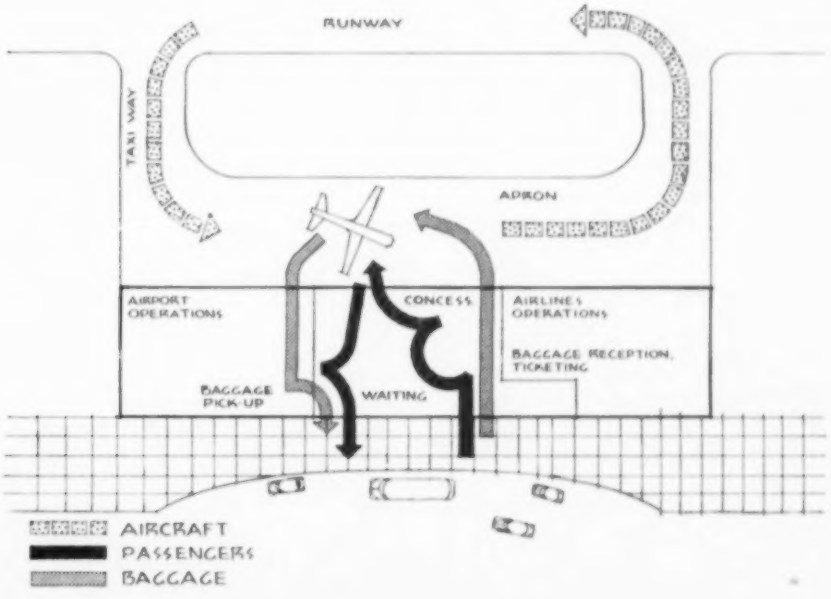
First is the classification by type of aircraft using the airport and the type of air service to be accommodated at the airport. CAA now recognizes seven types, instead of its former five classes: secondary, feeder, local, express, continental, intercontinental, and intercontinental express. These service types will, among other things, determine landing strip and paved runway dimensions.

Classification by operational system, though, is the one that will most affect planning of the building. Extremely controversial at the moment, this question must be settled at each airport at the earliest stage possible, after needs and potentials have been determined. Is it more convenient for the passenger, and is it more efficient for the airline, to operate the terminal as a series of individual unit stations related only in waiting and concession spaces, airport management and governmental office functions? Is it better to centralize similar operations as much as possible, and actually consolidate some common commercial activities? Most airport designs today fall into a sort of compromise solution, not completely satisfactory in any sense. CAA now favors a centralized system and some consolidation. Some airlines still hold out for a unit system—with, it seems to the Editors, an attempt at rationalization which conceals an understandable commercial rivalry.

The unit system, in its extreme form a series of individual stations connected by a corridor, provides each airline with its own waiting-room, ticketing space, offices, and baggage-handling area. There may be a central waiting lobby and concession space, or the only centralized function may be a restaurant. This is fine for the airline which wants to keep its passengers to itself; it is convenient for the passenger using only one airline. It is most inconvenient for the passenger changing planes or seeking information; it is not good for the concessionaire. Few airlines still want this scheme in its entirety, but many of them like its operational advantages. In a circulation sense (if it were not for the problem of changing among planes operated by different lines) it has its merits—enplaning passengers can be delivered directly to the unit station, near the apron. It also, by its very strung-out nature, makes expansion fairly simple. Individual airline operations are probably made easier by this scheme; airport management and maintenance are made more difficult.

The centralized scheme brings all airline counters, waiting space, and baggage-handling facilities into one major area. Although there is a certain loss of identity for the airlines, they may have their own ticket counters within the central concourse. The passenger still has to go from counter to counter to get full flight information, but his walking distances are less, and transferring from one line to another is simplified. Disadvantages are that airlines counters are some distance from the apron, and expansion may be difficult.

Further consolidation beyond the centralized scheme now used would seem de-

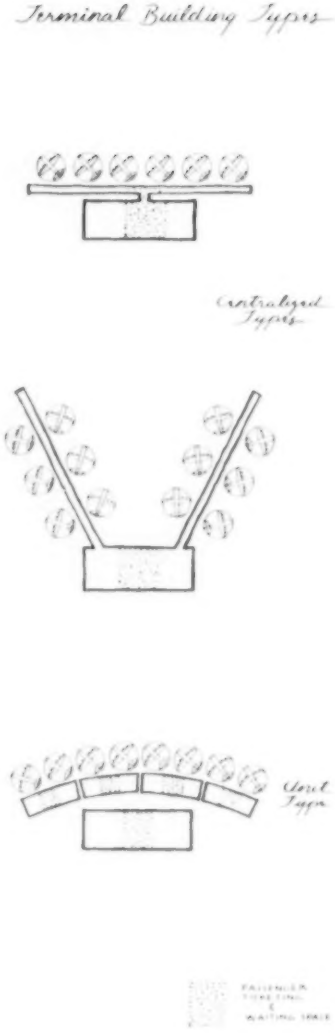


Terminal building planning is idealized in three categories at right. The passenger—enplaning and deplaning, using ticketing, waiting, and concession facilities; the baggage—transferred between weigh-in and loading station, pick-up and ground transportation; the airplane—taxiing between runway and apron loading station.

sirable in many instances—but it also seems to be almost impossible of attainment. One simple step would be a central flight information board, maintained by all the lines using the terminal; this is planned in a few instances, but has been turned down in others. A further move would be consolidation of ticketing offices in one central agency arrangement. The economy in space and saving of personnel, directness of circulation flow in the terminal, and ease in expansion implied by such an operation are apparent; and it would seem that all this could be translated into terms of lower passenger fares. However, some airlines say operating experience shows this cannot be done efficiently and economically, and they feel that such planning would eliminate "competition and free enterprise." As an example of present thinking, while the new Philadelphia International Airport was being planned the unit plan at one point gave way to a centralized scheme, and some consolidation was considered. Now, however, the airlines have decided that they want to go back to a unit system. At La Guardia Field in New York, originally planned for centralized operations, most of the airlines are now using space along the apron for both ticketing and passenger waiting—and the huge second-floor concourse is almost deserted, partly because the original plan did not allow for the expansion now necessary.

Another possible program seems even more questionable. The idea of eliminating all ticketing and most of the baggage handling at the airport and making fuller use of the in-town terminal, which already exists in many cities, has appealed to some planners. Enplaning passengers would buy their tickets, check their baggage, and board ground transportation in the city, then be taken directly to the plane at the port. Upon arrival, waiting at the airport station would be only for delayed flights and transfers. Deplaning passengers would directly board limousines, and pick up baggage at the city terminal. Aero-Gare des Invalides in Paris and several other European stations work in very nearly this way. Such a development would change air terminal planning concepts radically; although most of the income from concessions would be lost at the airport, space requirements, and construction cost would drop to compensate. The airlines feel that objections to the idea are too great to be overcome: there would be no direct contact between ticket office and the apron, control tower, and weather bureau station; there are many passengers who live closer to the airport than to the down-town office; and there will always be important revenue from the last-minute passenger who dashes to the field in his own car.

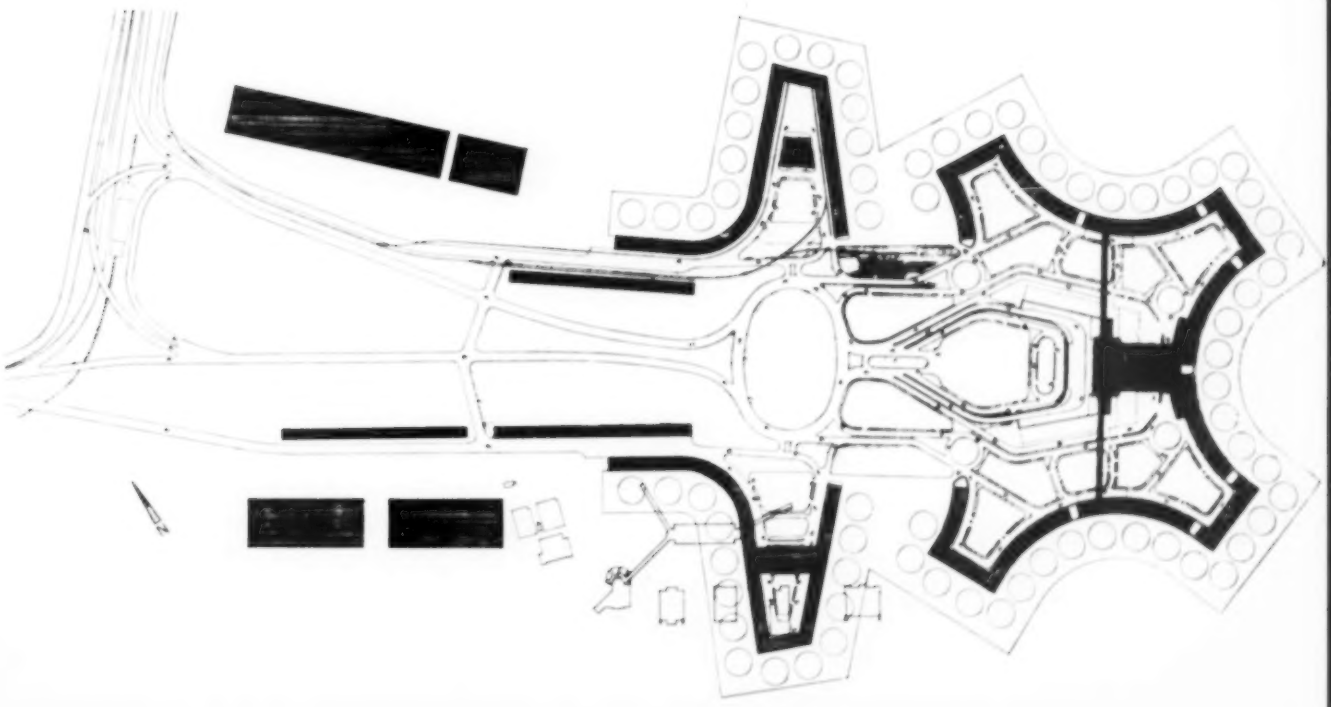
Whatever the operational system adopted, it is clear that the air station must function precisely—it is basically a machine to facilitate transfer of passengers from the ground to the air and vice-versa. Circulation through it must be smooth and efficient; if one indulges in an architectural metaphor, it should have something of the smoothly flowing quality of the flight it leads to, in its plan (and, one would think, in its appearance as well). Since circulation is so important, this next section of the magazine is devoted to a discussion of the three main circulation movements at the terminal—circulation of the aircraft, of passengers, and of baggage.



Terminal building types: the centralized and unit schemes.

B.O.A.C. Comet and coach are shown at London Airport (above). Direct communication between plane and ground transportation reduces time-distance factor. Capital Airlines downtown office in Chicago (right) eliminates necessity for passenger ticketing at airport. Architects: Frederick Moss and Joseph Baker.

Logan International Airport, Boston, Mass., is designed on a semitrontal-finger principle (below). Ultimately developed, it will provide 70 loading stations for passengers and air freight. Architects: Shepley, Bulfinch, Richardson & Abbott.



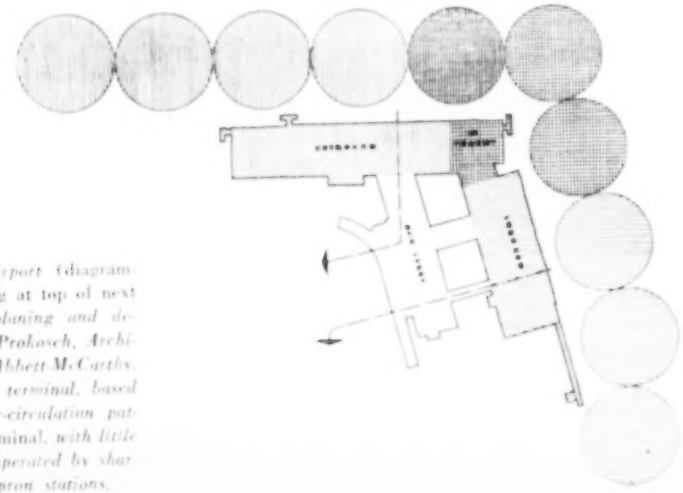
circulation: aircraft

The movements of the airplane on the ground are simple. On landing, under directives from the airport control tower, it arrives at one of the runways and taxies to a loading station on the apron in front of the terminal building. There it is serviced and loaded. On taking off, it taxies to its position on one of the airstrips and proceeds down a runway. Its only other maneuver might be to taxi to an off-apron position for inspection, servicing, or garaging. While most architects will be faced with a strong client determination about location of loading positions and servicing, it is well to know the pro and con aspects of some aircraft apron activities. The terminal building architect may adopt either of two currently accepted apron schemes. The smaller port, with its lower passenger volume, may use a frontal arrangement with aircraft strung out along the perimeter of the building. For the larger-volume terminal, a "finger" scheme, consisting of piers stretching onto the field, perpendicular or radial to the building, with planes grouped along these extensions, seems best. The finger plan adapts itself well to the unit operational scheme described earlier, as an individual airline may use all or a part of one finger. It also works perfectly well with a centralized ticketing and baggage handling operation, since walking time from the waiting room and loading distances from baggage and cargo rooms can be reduced.

Airport facilities must be "balanced" for perfectly economical and efficient procedure: air traffic; ground handling; runway capacity; loading; and passenger, baggage, and cargo flow must all accommodate the same number of schedules per hour. If one operation is a bottleneck, all others wait. If one can be speeded up, others must move more rapidly to compensate. To date, industry's efforts to save time by air travel have been directed toward increasing the flying speed of aircraft. Now there is agreement that greater attention must be paid to ground time—arrivals and departures, ticketing and waiting time, and (not the least by any means) loading time of aircraft on the apron. Time lost during the servicing and loading period is not due to passenger loading, but to the handling of cargo, fuel, and food. While navigational aids have increased runway acceptance rates, aircraft loads have also risen, and will continue at an upward rate for some time. Much of this problem must be approached as a time-and-motion study by the airlines. The architect's concern for servicing utilities (fuel lines, cabin heating and cooling devices, electrical, water, compressed air, sewage and telephone services) may well save cargo and loading time.

Mechanical airplane docking devices are appealing and may gain acceptance rapidly if their cost (between $30,000 and $40,000 a unit) can be reduced. The advantages gained in level loading (which has saved so much truck loading time in recent years) are defeated by the ever recurring problem of lack of standardization in aircraft design. Comingling of fuels for pit or hydrant fueling (so that a co-ordinated system of supply with various fuels of the same octane rating furnished at the same point by various suppliers) is favored by CAA, but not wholly accepted by the airlines or the oil companies. The lack of enthusiasm of the airlines and oil companies springs from taxes needed to amortize pipe lines. A one-half cent rise of a gallon of gasoline could result in added costs of hundreds of thousands of dollars in operating expenses. Mobile units or a multiplicity of supply lines and hose connections are today's unsatisfactory solutions. Refueling at runway ends instead of at the apron seems impracticable, not only due to the complications of comingling, but also because it requires stopping and restarting the aircraft.

There should be broader approaches to the improvement of circulation and loading of aircraft at the terminal. That these operations take place in the open, in all

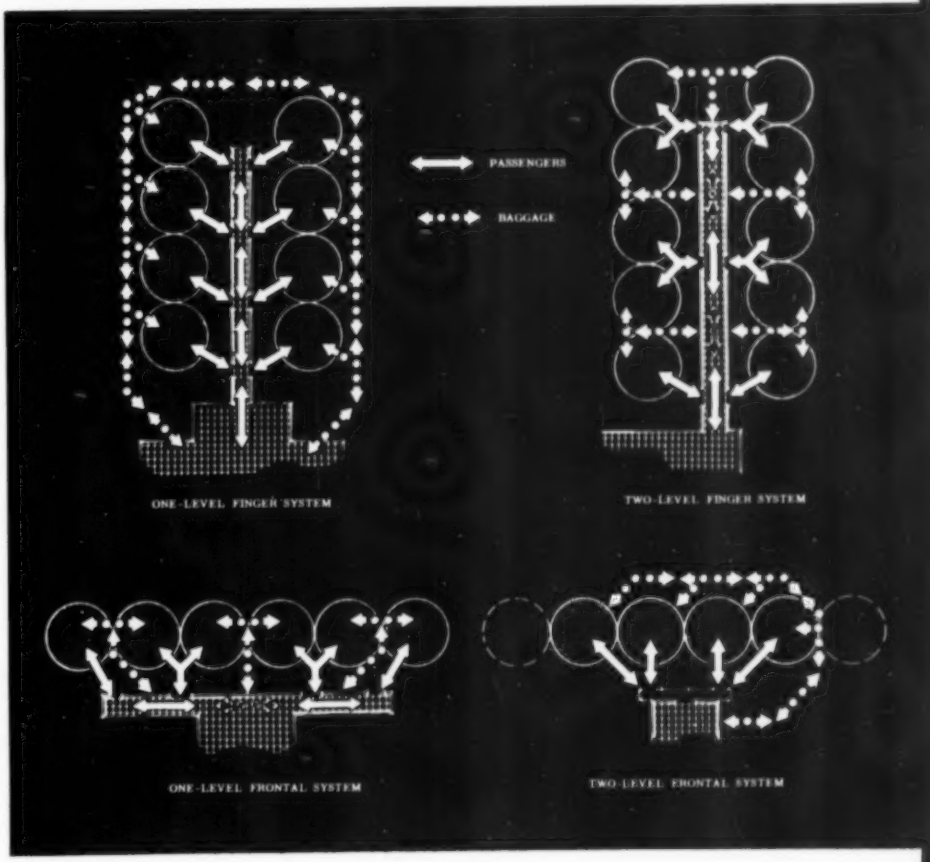


Puerto Rico International Airport (diagrammatic plan at right; rendering at top of next page) *entirely separates enplaning and deplaning passengers. Walther Prokosch, Architect for Knappen-Tippetts-Abbett-McCarthy, Engineers, who designed the terminal, based aircraft as well as passenger-circulation patterns on fact that it was a* terminal, *with little in-transit traffic. Airlines co-operated by sharing inbound and outbound apron stations.*

Frontal scheme for aircraft-loading positions works well at Puerto Rico International Airport. Diagrammatic comparison between frontal and finger-plan methods of parking planes at loading stations is shown below (right).

weather, is obviously inconvenient to crew and passengers. However, aside from Tempelhof Airport's ambitious scheme in Germany, which keeps all planes under a huge cantilevered canopy, no other solutions have been seriously tried. Projecting canopies at apron station points have been suggested from time to time, but are invariably abandoned when the budget is pared. There have been suggestions to treat the terminal building as a huge hangar, with the plane coming in one end, loading under cover, and going out the other. Except for a United Airlines experiment at Omaha, construction costs have prevented more serious trials. Perhaps as the airport program progresses, such imaginative schemes may be seriously investigated.

Each airline wants the most favored location, on the apron as well as in the terminal building. And many of them, having gained position, resort to doubleparking planes at peak periods instead of using stations not so well located. Another operational possibility is the procedure, recommended by CAA, of moving aircraft from the loading apron to planned parking positions for extended layovers. The only real solution to double parking, as to other problems of aircraft circulation, is basic study of the relation of the terminal building to other facilities at the airport.



circulation: passengers

Aside from air-traffic control, the main function of a commercial airport terminal building is to facilitate the transfer of passengers. The passengers' circulation is, then, the primary basis for planning. In essence, it is (or should be) simple and direct. The enplaning passenger arrives by some ground vehicle; he may seek information; he purchases his ticket unless he has done so before arrival; he has his baggage weighed and taken from him; he waits until the announcement of his flight; he leaves the terminal building, passes through an apron gate, crosses the apron; and boards the plane.

The circulation of the deplaning passenger is simpler. Unless there are complications of customs and immigration, he leaves the plane; crosses the apron; enters the terminal building; picks up his baggage; and leaves to find ground transportation.

Since passengers may arrive or leave by private car, bus, or airlines limousine, the handling of any and all possibilities must be studied. A local study of ground-travel habits may be desirable; easy unloading and properly segregated parking facilities are important. Movement from the unloading point to information and ticketing areas should be swift and unobstructed. Except at the very small airport, it would seem wrong for the passenger to arrive in a general waiting area where he immediately mingles with others who are waiting, leaving, or visiting. Sources of information should be readily available; ticketing counters and baggage check-in spaces should be not only easy to find immediately but also preferably out of the main stream

circulation: passengers

Two-level circulation is the basis of planning at Philadelphia, Pennsylvania, International Airport (above). Carroll, Grisdale & Van Alen, Architects; and at Greater Fort Worth, Texas, International Airport (left). Joseph R. Pelich and Preston M. Geren, Associated Architects. Both utilize finger plans; passengers travel above and descend to plane apron; baggage is transported at lower level.

of other circulation lines. A central flight-information board would be a great help since one of the circulation problems is having at the airlines counters passengers already ticketed but waiting and watching the individual posting boards, worried lest they miss an announcement. Some plans, recognizing this, provide sub-waiting areas directly in front of the counters. But this develops into a duplication of space usage inevitably resulting in crossed circulation lines.

An aspect of airlines rivalry that the planner soon discovers is the matter of most-favored location for ticketing space. The most active carrier at a given port will get the best space (and no matter how counters are planned, one location will be considered "best"); and if there are two of equal importance a desire for some sort of symmetry will probably result. If there were such a thing as a fully equitable arrangement, the bigger lines would consider this unfair to their prestige. Least consideration will be given to the non-scheduled carrier, whose passengers are looked upon as almost a class apart (they don't have so much money to spend!)

After ticketing and baggage weigh-in, the passenger will go on to a waiting space, perhaps for a long time in case of unavoidable delay, or perhaps for a very few minutes. During this period, it is hoped that he will patronize some of the concessions, or he may make use of washroom and toilet facilities, or he may want to make a phone call. In discussing the economic study, mention has been made of some of the concessions which may be profitable and useful. Here, in considering planning, it should be pointed out that the concessions may become a functional hazard, since they may be placed in such a way that, for maximum revenue, they interfere with passenger circulation. There are airport buildings in which restaurants are placed where exits to the field obviously should be; there are newsstands, lighted displays, and other obstructions in the way of direct passage from waiting space to ramp gates. The balance between necessary income and passenger convenience must again be carefully weighed. Merchandising principles that many store planners understand—the difference between impulse, demand, and convenience buying, for example—might be applied after fundamental planning has been studied.

The fact that the enplaning and the in-transit passenger, in addition to the all-important visitor, are the ones who will use

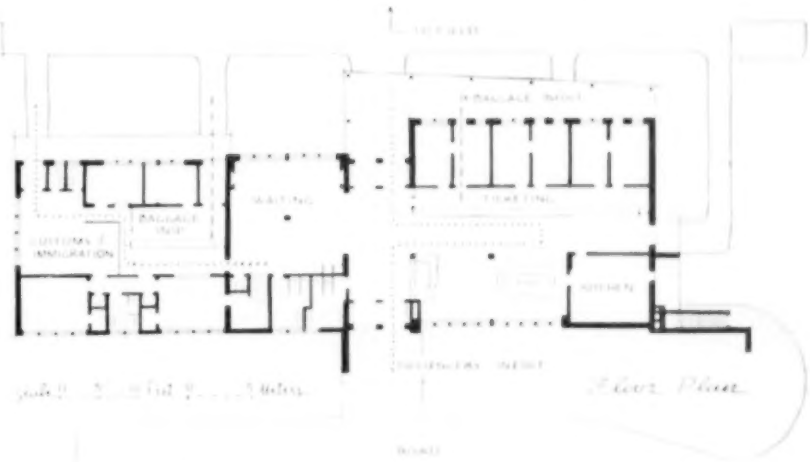
Three focal points of passenger circulation within terminal are illustrated here: ticketing counter (below) at Mobile, Alabama, Airport; John Carey, Architect; waiting room (center) at Bush Field, Augusta, Georgia; Kuhlke & Wade, Architects; concession spaces (bottom), again at Mobile Airport.

the waiting room almost entirely (and the concessions primarily) should also be recognized. The deplaning passenger is usually in a hurry to get away; he wants his baggage and transportation at once. This fact has led to solutions which attempt to separate incoming and outgoing circulation. The outstanding example, to date, is probably the airport being constructed at Puerto Rico, where the principal drawback to such planning—the fact that the in-transit passenger is both coming *and* going—is minimized because the port is almost literally a *terminal*; very little through traffic is anticipated. Though concessions must be duplicated, if there are separate arrival and departure lobbies, this is not necessarily a complication if there is sufficient volume in both places to justify newsstands, cigar counters, telephones, and other services designed to attract the visitor.

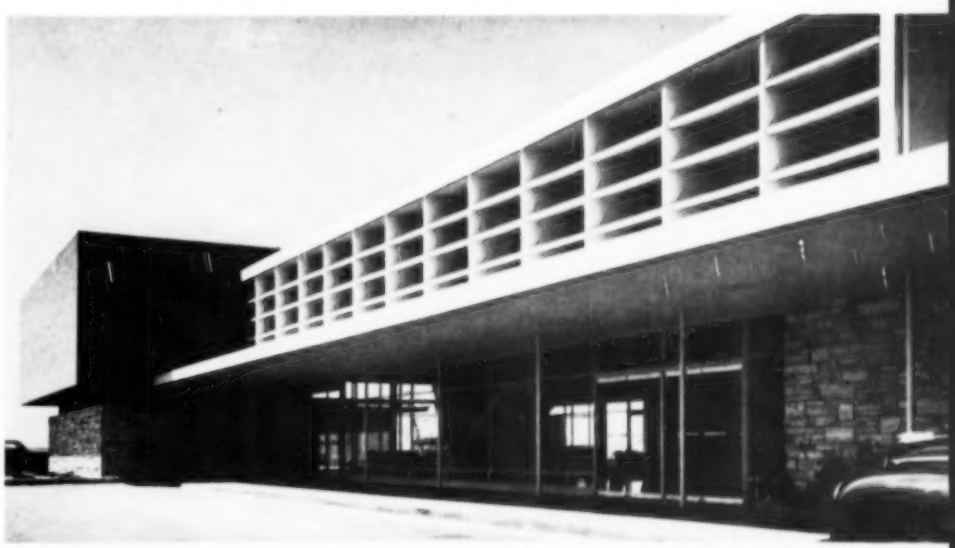
The final movement of the enplaning passenger (and the first of the deplaning) is to pass from waiting space to the plane on the apron, or vice versa. A final check, to make sure that visitors or unticketed persons are not moving to the apron, requires some sort of gate control at that point—and telephone communication for the agent stationed there. It is not a safe procedure to allow passengers to wander to the plane, perhaps through truck and baggage-cart traffic, where planes may be warming up, and where there is no protection from the weather. Elimination of this hazard seems almost impossible, except under a control system by which each passenger is escorted to the plane. A totally new approach to air terminal planning would solve this (delivery by limousine directly from the downtown office to the door of the plane; undercover transit of the aircraft through an enlarged terminal building; or mechanical docking.) But these do not seem likely in the foreseeable future. At this circulation point, the unit plan seems to work best for the passenger: he leaves a waiting room directly adjacent to the apron, for a plane immediately visible to him. In too many existing buildings, the location of gates and even access from building to field are difficult for the inexperienced traveler to discover.

Baggage circulation, discussed later, requires a relationship between baggage spaces and passenger circulation. Conflicts can be avoided by a two-level scheme, justified in some cases in larger buildings. This would take the passenger immediately to an upper level, away from all baggage, cargo,

Municipal Airport at Flagstaff, Arizona (above), Edward L. Varney, Architect, shows direct circulation through small terminal. Airlines counter is directly at hand; waiting room overlooks apron. Somewhat larger facility at Burlington, Vermont, Municipal Airport (below), Harold C. Knight, Architect for Fay, Spofford & Thorndike, Engineers, is further complicated by need for screening of international travelers. They are segregated (at left of plan) until after clearance; then pass into common waiting room.



Beginning or end of passenger's trip through terminal building is contact with ground transportation. Ground-approach side of Monterey, California, Airport, Robert E. Jones, Architect (below).



service, and administrative activities. When he drops his baggage, it is chuted to the lower level, following his own movements at the apron level of the finger. The weakness of this system is that it involves many ups and downs—the passenger must descend to the plane apron, coming in conflict with other activities, and again climb up into the plane. Mechanical gangplanks, but for their prohibitive cost and the various locations of aircraft doors, would help solve this problem.

One further possible complication in passenger circulation should be mentioned: that is the handling of international travelers, and processing them through customs, immigration, and other agencies that are concerned with their movements or the contents of their baggage. If they are incoming, they must be segregated, and their baggage must be handled separately. Most international ports have a passenger volume large enough to justify a two-level scheme. This (as at Havana) permits a vertical separation of baggage and passengers, and a horizontal separation of domestic and international travelers. Provision, too, must sometimes be made for passengers technically not in the country, but enroute from one foreign land to another (someone going from Cuba to Canada, for instance, might not "enter" the United States even though he waited for some time at a New York airport).

Compared to some other complicated architectural planning problems (hospitals, for instance), the movement of *persons* through the terminal building is not especially complex. Its solution is made difficult sometimes by competition or conflicting interests among the many client groups involved; and by lack of determination by management of the relative importance of operations, revenue, and passenger convenience. These are the main problems which will have to be resolved, to achieve an efficiently working plan for passenger circulation.

circulation: baggage

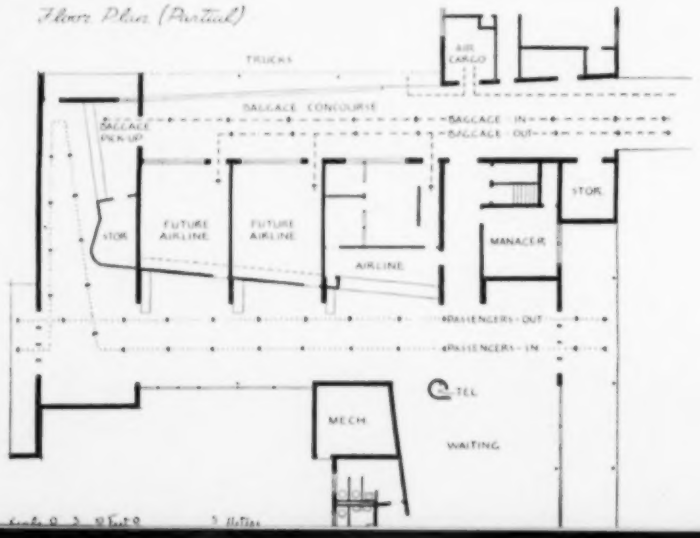
The airline business recognizes seven types of passenger baggage: domestic, inbound and outbound; domestic transfer, inter-airline and intra-airline; international, in-transit (usually in bond) and outbound and inbound (requiring customs inspection). However, basic criteria for handling all these categories of personal belongings are similar:

1. Passengers should handle baggage as little as possible.
2. On arrival, by ground transportation, baggage should go to a baggage room and thence directly to the plane, as soon as possible.
3. Unloaded from the plane, baggage should go directly and quickly to the passenger pick-up point.
4. Baggage should be handled carefully.

For enplaning passengers, the least damaging device for baggage handling (once it is left at the ticketing counter, is a mechanical conveyor. It is more expensive than the chutes often used, and budget limitations may militate against its use. Such a conveyor (or chute system) will deliver baggage to a central baggage room, or to the individual airlines' baggage rooms (depending on whether a unit or centralized operational system is used), and from there carts are used to take the baggage to the plane on the apron. At this point, it is very desirable to keep baggage items under cover as long as possible. A baggage cart concourse, indoors or at least under a canopy, and covered approaches within the fingers, if that plan is used, are partial solutions.

For deplaning passengers, the type of operational system will again determine whether pick-up is at individual baggage rooms for each airline, or at a central consolidated point. Cart concourses are again desirable for delivery from plane to this point. Baggage for international passengers is taken first to the customs inspections area, then to meet the passenger where ground transportation is loaded. Ideally, the normal pick-up spot should be near the exit, so that a departing passenger can quickly gather his bags and find bus or taxi. For smaller airports, this point can well be outside the building on the street side.

Relationship between baggage and passenger circulation has already been stressed. Vertical separation of the two lines of travel, where it can be justified economically, is as valuable for careful baggage handling as it is for passenger convenience.

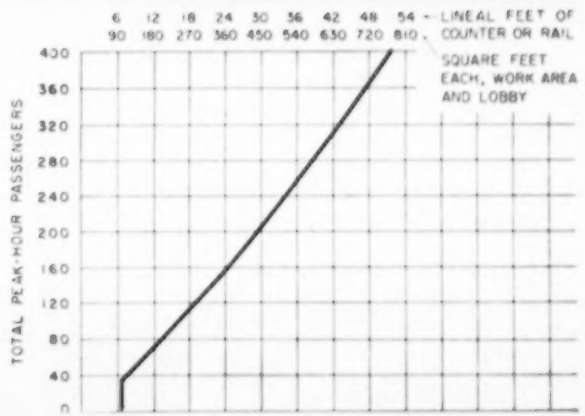


At Meridian, Mississippi, Airport (Chris Risher, Architect), *baggage transfer and air-freight distribution are facilitated by a concourse* (right). *Outgoing baggage, taken from ticket counters, goes through passage to the waiting plane. While air cargo is filtered off, incoming luggage continue through concourse to baggage room for passenger pick-up.*

SIGHTSEERS *intermingle freely on two levels at the International Airport, Tampa, Florida* (above). *At Philadelphia, they are separated for control and revenue; Philadelphia International Airport; Carroll, Grisdale & Van Alen, Architects* (left).

BAGGAGE CLAIM *graph translates passenger traffic into counter space, lobby and work area requirements. Architects Roy Worden and Vincent Fagan with Frank Montana as Consultant provided recessed baggage-claim counter adjacent to incoming gates and lobby exit at Indiana's South Bend Airport. Though station-to-plane routing provides no overhead protection, once within the building, circulation is isolated; interference with passenger flow prevented* (below).

BAGGAGE *handling at Pittsburgh Airport provides circular chute for rapid vertical transfer of baggage to field level. As opposed to more costly (but less damaging) mechanical conveyors, Architect Joseph Hoover felt budget limitations dictated their use* (above). *Weigh-in platforms at South Bend, Indiana, Airport adjoin separate waiting areas. Direct access from road to individual airline ticket counter eases traffic pattern, but results in duplication of lounge facilities;* (left; also see right). *Typical baggage handling counter and scales are shown at International Airport, Tampa, Florida* (below left; also see above). *Symbol of airline commercial identity, zealously guarded, is information board behind; Eliot Chapin Fletcher; architect.*



small airport terminal

location	Plattsburgh, New York
architect	William W. Freeman
consulting engineers	Jaros, Baum & Bolles
general contractor	Wright & Morrissey, Inc.

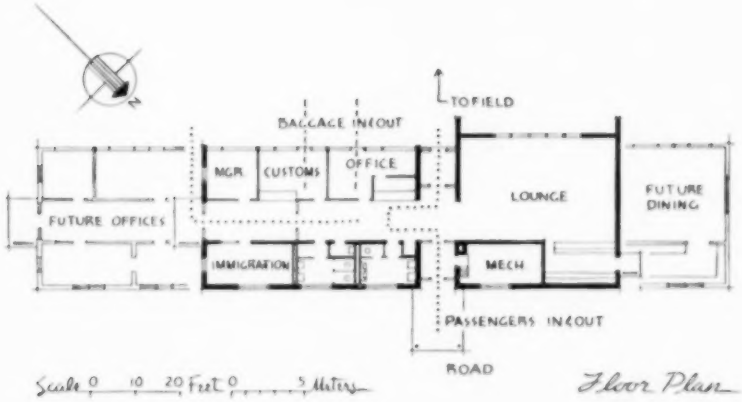
This small air station was built to serve one commercial airline, initially, but with the plan and structure so schemed that facilities can be added readily to accommodate other lines. The lounge is considered large enough for any likely future need, but as demands for new ticketing space or additional U. S. Customs and Immigration offices occur, they will be organized in a new wing to the east, continuing the present central hallway; when a full-scale dining room is needed, it will be accommodated in an addition at the west end.

The perfectly flat site commands a view of the Adirondack Mountains across the field to the south. To protect the structure from the prevailing north winds, the front of the building is of brick, with small window areas; on the south or field side, large openings are used, and the walls are of natural cedar boarding on frame. The roof has a light-steel frame, with wood rafters and sheathing beneath the built-up roofing. Heating is by a hot-water system, with standing radiation; in addition, a unit heater is directed on the big lounge windows. All ceilings are finished with acoustic tile.

Doors to the building are natural wood, while wood trim is painted gray. Gray-beige-painted steel, mobile partitioning is used in the office space to simplify future changes. In general, interior color is a muted harmony of natural wood, buff brick, yellow-painted wall areas, and a warm-beige asphalt-tile floor; in back of the snack bar, however, a bright-red wall introduces a brilliant color accent.

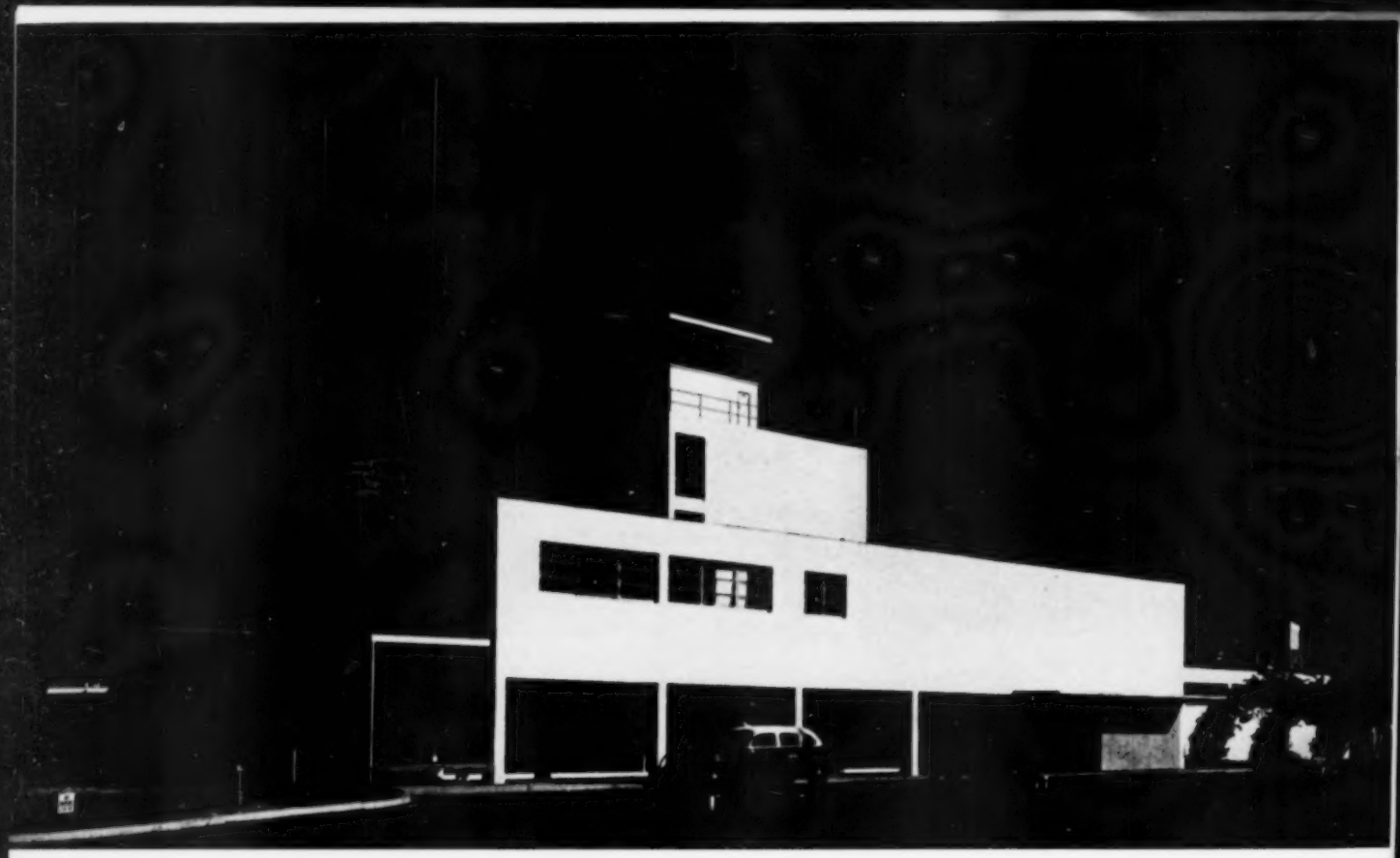
The view window in the south wall of the lounge combines fixed glazing with out-opening sash; soffit of the roof overhang is surfaced with asbestos-cement board. Artificial lights are mainly of the recessed type, selected to enhance a sense of space.

Photos: Richard Garrison



Floor Plan

According to John C. Calver, Airport Manager: "The building is working out very satisfactorily. The commercial airlines people tell us that we provide better office facilities than they have in some large cities."



medium airport terminal

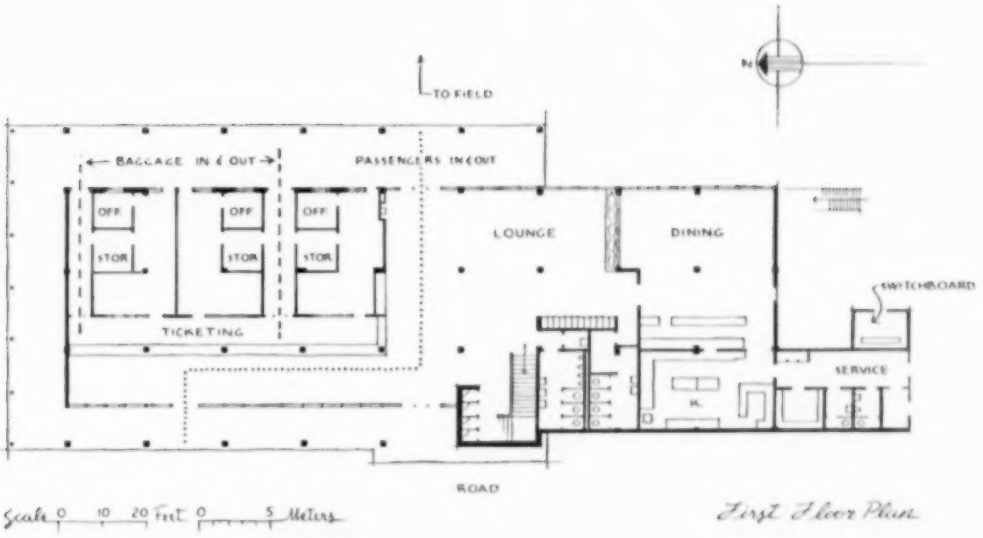
location	Baton Rouge, Louisiana
architect	A. Hays Town
consulting engineers	Ogden & Woodruff
structural-mechanical engineer	Thomas A. Lucy
general contractors	R. P. Farnsworth & Co., Inc. Robert Thibodeaux & Co., Inc.

In addition to providing customary passenger services and facilities as well as office space for the major airlines that use the port, this station also houses (upstairs) offices for CAA; the Interstate Airways Traffic Control Station; Tower Control Station; Airport Branch Division Maintenance Headquarters; U.S. Weather Bureau; U.S. Customs; and the Airport Manager.

The site, quite flat and bare of trees, was established by an existing airfield. Approach to design, says the architect, was "primarily economic—to provide the best possible solution within a fixed appropriation. The plan is such that airlines personnel have immediate access to ticket desk and field. Passengers have an excellent view of the field from both lounge and dining room." The north wall of the building is temporarily surfaced with asbestos-cement panels, in anticipation of eventual expansion at this end to accommodate additional airlines office space, the freight depot, and ticket concourse.

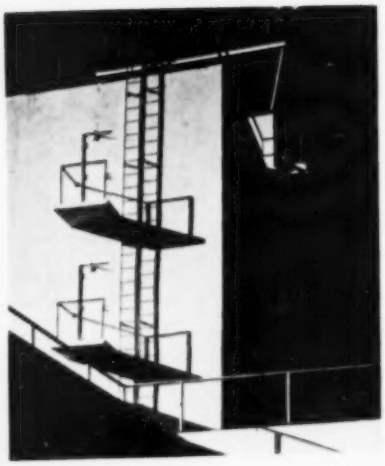
The building is a monolithic-concrete structure with concrete-slab roof over steel joists. In public spaces, terrazzo is the flooring; quarry and ceramic tile are used in service areas, and office floors are asphalt tile. Built-up tar-and-slag roofing occurs over glass-fiber insulation.

The plate-glass glazing is either heat-absorbing or clear; in the control tower, window areas have heat-absorbing glass outside, a $\frac{1}{2}$" air space, and clear, polished plate inside. Interior doors are mahogany, solid-core type, while entrance doors are tempered plate glass. A year-round, zone-controlled air-conditioning system is used, with a special system in the control tower, where, because of the sun-heat load, cooling is needed even in winter.



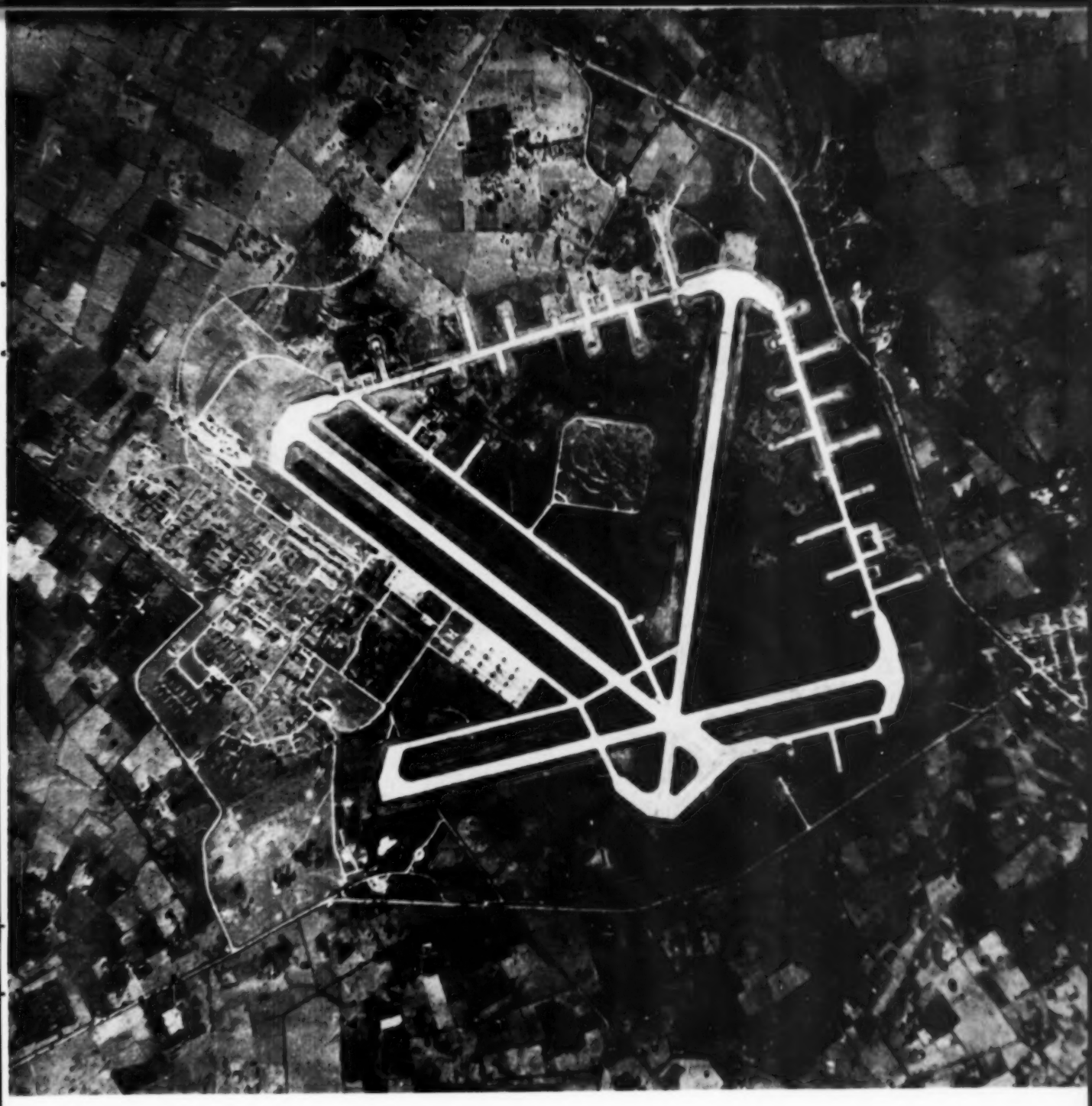
First Floor Plan

medium airport terminal



At each level of the control tower (right), *doors open onto cantilevered balconies alongside a wall ladder. The lounge* (below, top) *commands an unhindered view of the field, while the ticket concourse* (bottom) *has a wall of glass facing the approach drive.*
Photos: Elemore Morgan

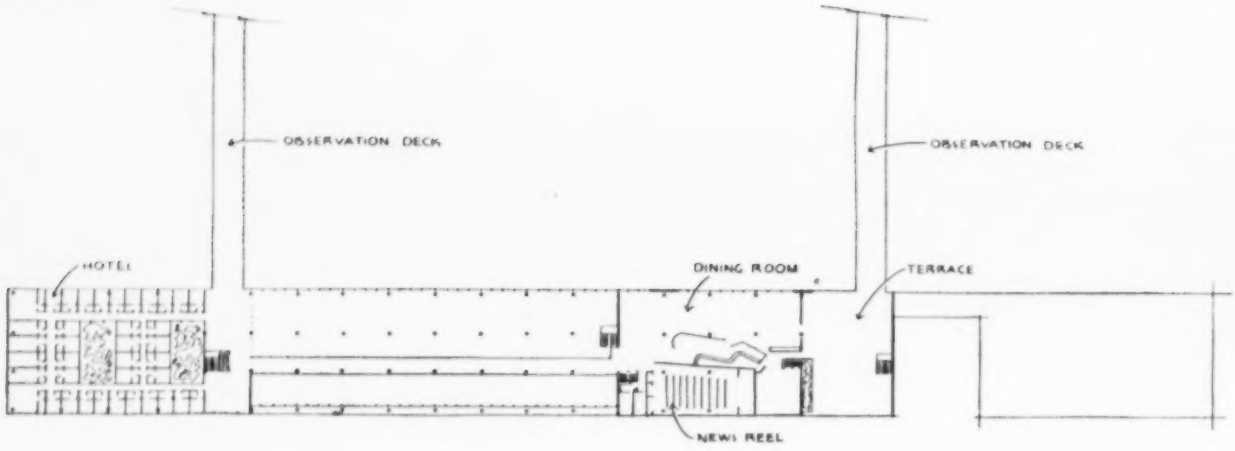
Throughout the public areas, walls are cool gray, with terrazzo floors of a darker gray; furred duct spaces are painted yellow; and the ticket counter is finished with dark-green vinyl-plastic sheeting. The acoustic-tile ceilings are off white.



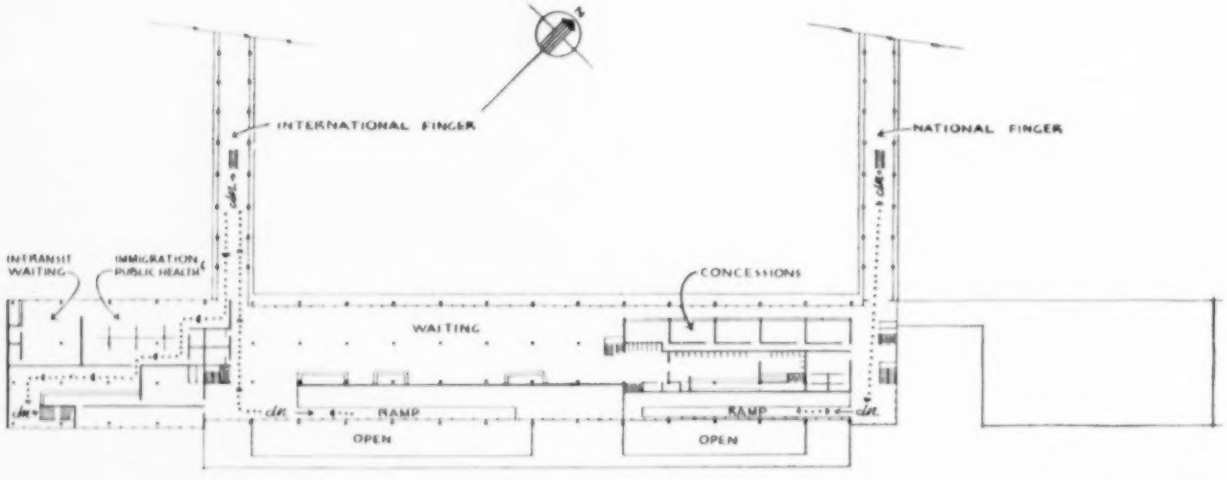
international airport terminal

location	Havana, Cuba
architects	Nicolas R. Arroyo & Gabriela M. de Arroyo

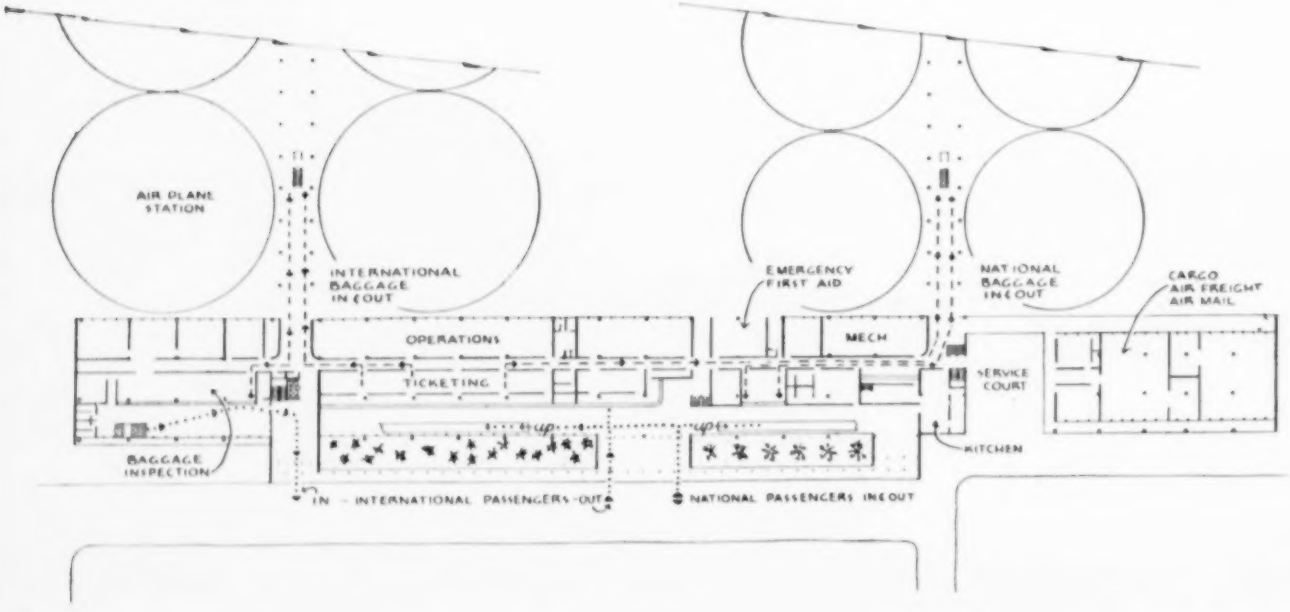
international airport terminal



Third Floor

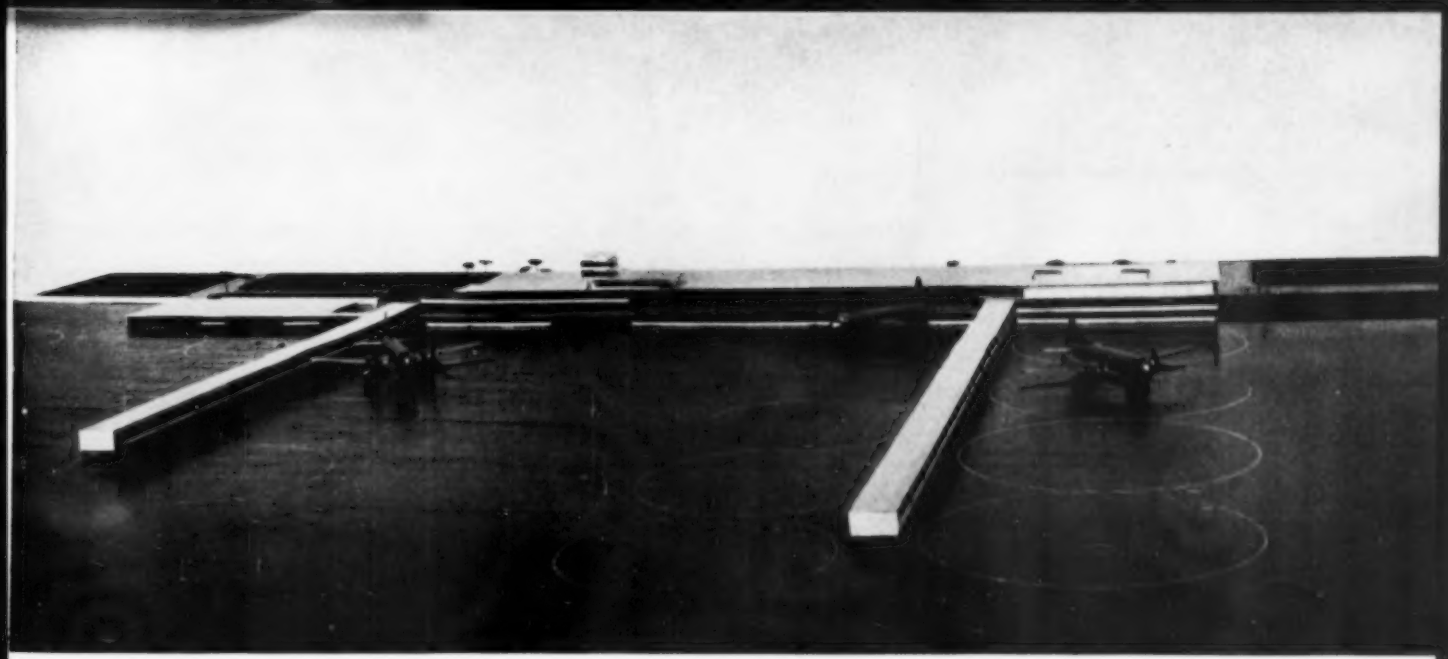


Second Floor



Scale 0 50 100 Feet 0 10 20 30 Meters

First Floor

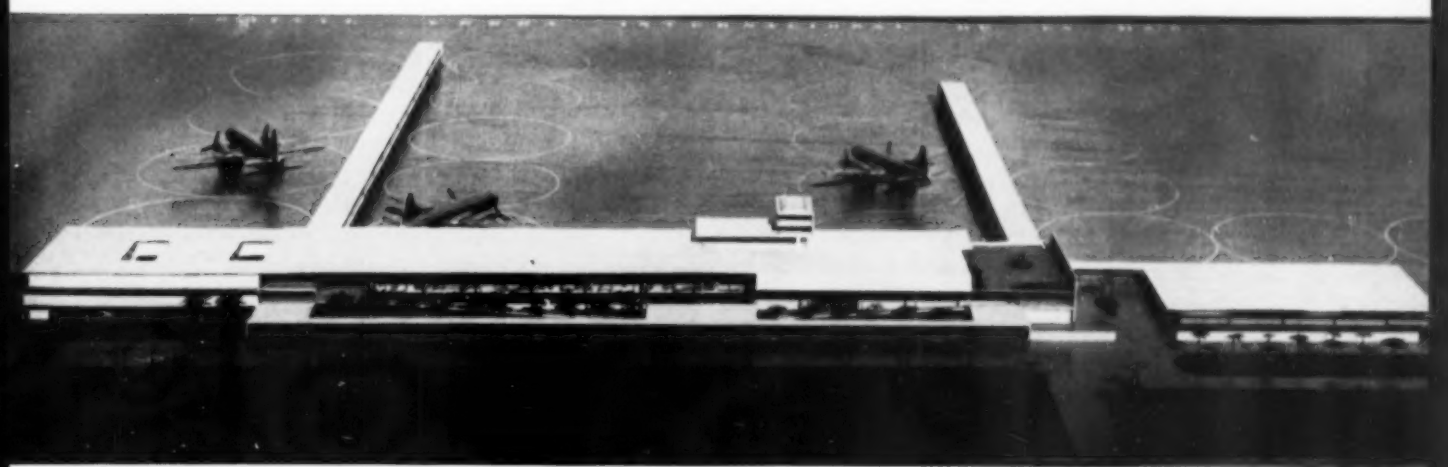


It is anticipated that about 90 percent of the passenger load at this projected terminal building will be international—and only 10 percent domestic. The present finger plan allots the finger toward the east to domestic flights and the one toward the west to international travelers, with attendant customs and inspection facilities. A future plan stage *(not shown)* includes an additional international finger and building unit to be added to the west end of the present scheme. At this eventual stage, one of these westerly fingers would be used solely for outgoing international passengers; the other for incoming international travelers. Such painstaking separation of various types of circulation is typical. For example, the *cargo air-freight air-mail* unit, with its own parking space, is entirely apart from the passenger facility.

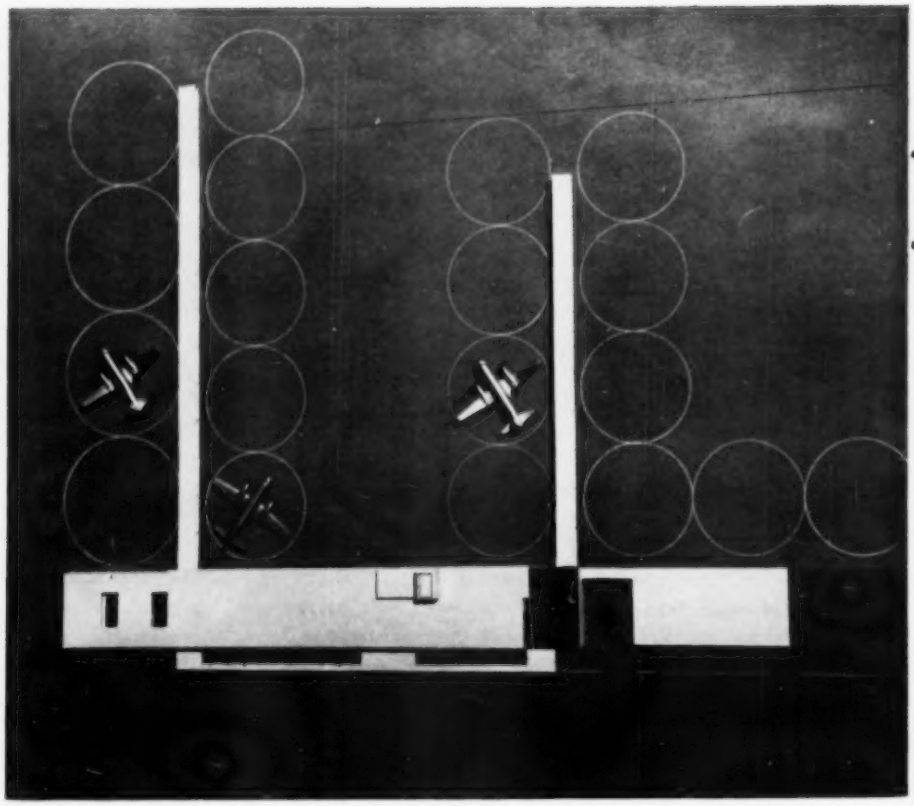
Passengers arriving with their baggage at the ground-level entrance canopy enter directly in front of the ticket counters, and they and their baggage immediately proceed along independent flow lines. The baggage, after being weighed, moves back to an outgoing passageway where dollies haul it (always under cover) along the lower level of the finger, directly to aircraft. Passengers proceed from the ticket lobby up one of two broad ramps *(renderings, page 105)* to the waiting-room level, where they may go immediately along the upper level of the finger to the stairs that lead down to the plane stations; or, if they have time, they can wander into the big main waiting room *(rendering, overpage)*; or—if they choose—on up to the top level of the building, where they would find the main dining room, a newsreel theater, cocktail lounge, and observation decks.

At the west end of this top level is a small hotel facility, provided because Havana handles many passengers between North and South America who have extended waitovers; also, it is thought that many businessmen would use the airport hotel when catching early-morning planes.

After docking, incoming local or national passengers pass along the upper level of the east finger into the terminal building and



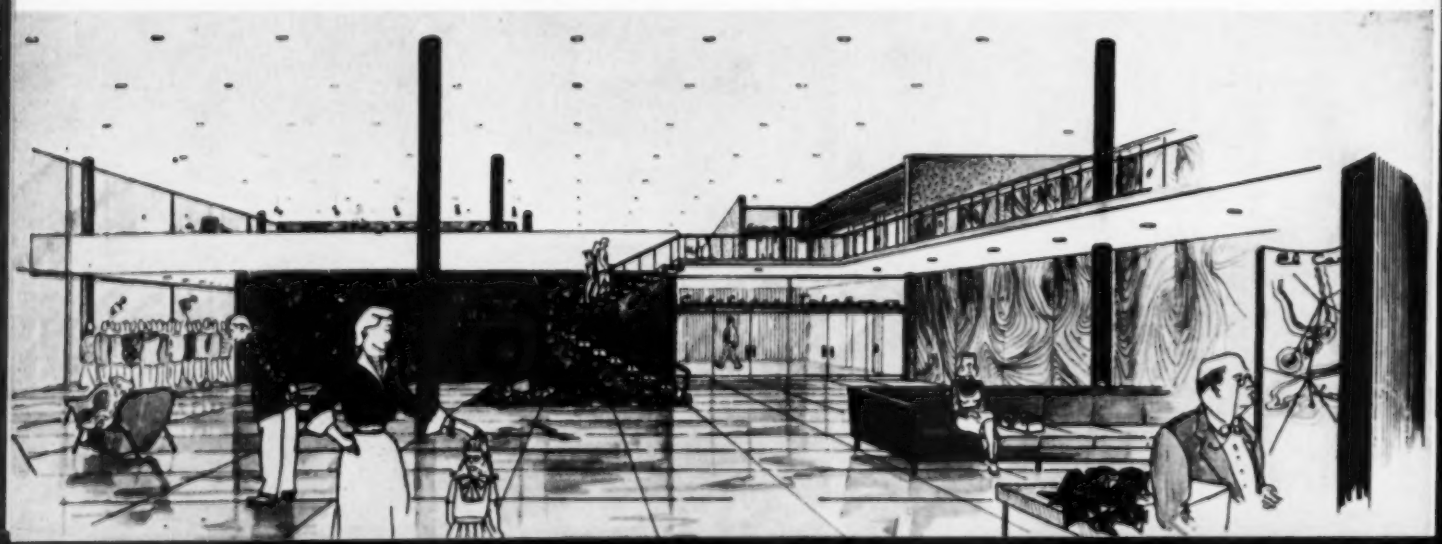
international airport terminal

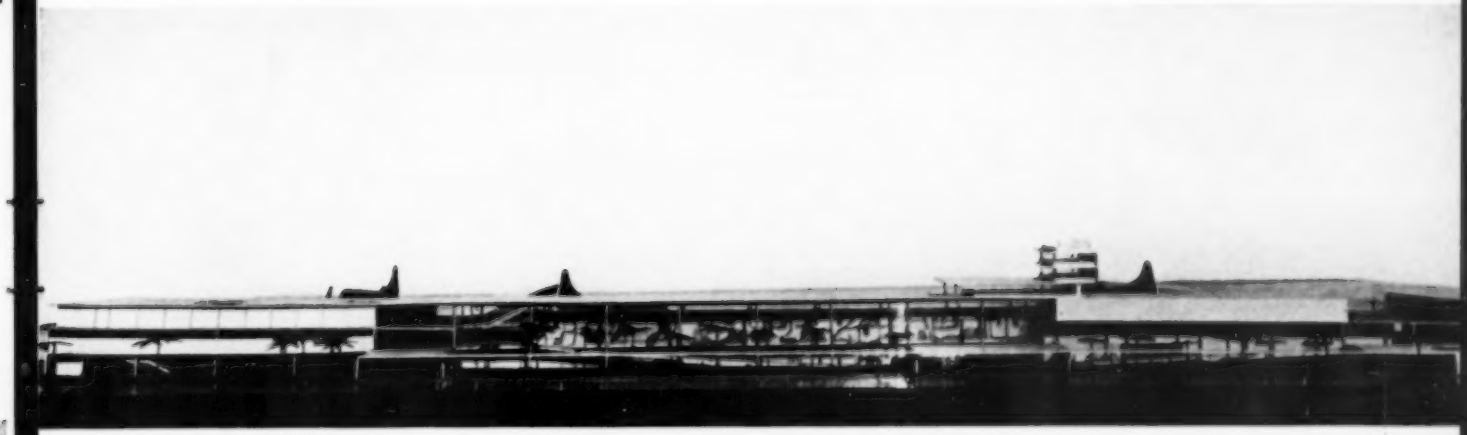


(since inspection is not required) directly down to an independent baggage-claim counter, then out to their own exit lobby and vehicle platform.

Incoming international passengers dock at the west finger, reach its upper level by stair or electric stairway, and proceed into a separate waiting room organized to handle simultaneously the immigration and public-health inspection of six flights. The passengers move along the inspection counter to an electric stairway that brings them down to their ground-level baggage-claim counter, at the end of which is a teller's cage that takes care of payment of duties, etc. From here, they pass through doors in a glass partition out to their separate vehicle-loading platform. At one end of the international passengers' waiting room is a special room provided for in-transit passengers awaiting a plane connection, who are technically not considered to be landed in Cuba. If they have the time and their papers are in order, they may follow the course of the "landed" passengers and, after clearance, make use of all of the terminal facilities; otherwise they remain in the special room until their outgoing flight is called.

The building will be a reinforced concrete structure, with floors of precast concrete joist and floor slabs to provide maximum flexibility for future changes.





Facilities to service planes, as well as all baggage- and cargo-handling, are on ground level, minimizing risk and increasing efficiency. Also at ground level are offices for airport management, emergency, and first-aid units. The kitchen and food-storage space are at the east end of this level, alongside a loading dock independent of other traffic. A basement under the center of the building houses air-conditioning equipment, pressure pumps for the water system, and various mechanical installations.

AUXILIARY FACILITIES

There are two types of ancillary spaces at an airport: those that are auxiliary to the primary passenger and passenger's baggage circulation in the air terminal building; and those that are auxiliary to the terminal building and its operation on the airport as a whole. Within the first category the airport planner must consider:

Airlines Operational Space: This will vary considerably with the individual airline and its operating policies, the size of the airport, and the extent of the airline's local operations (a regional office for an airline might be located, for instance, at a comparatively small port). In some instances, the airline's working space might be placed in its own area on the field; in others, all its work will be done in the terminal building. Functions which should be discussed with each airline's representatives would include the following, in addition to ticket-and-baggage reception counter: passenger agent's, station manager's, reservation offices; message center for radio, teletype, etc. (perhaps a coordinated area with separate airlines' communications facilities); flight crew and ground crew ready-rooms; flight control room; meteorology room; storage space for ground equipment; oil storage; food service for in-flight meals; baggage room; cargo room; employe lockers; rest room and lunch facilities.

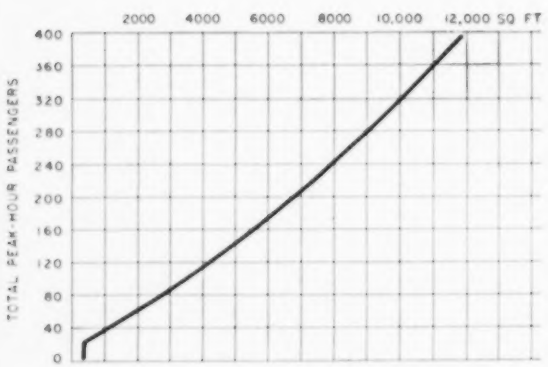
Airport Administration, Operation, and Maintenance Space: This too will depend on the size of the airport, the functions to be handled by the airport manager, and his own wishes and preferences. In its simplest form it is a single business office; in a more complex program it may be a suite of offices and many storage areas, shops, garage facilities, and stock rooms.

Government Functions: For these spaces the designers must first determine the character of the airport; international ports not only require special passenger circulation facilities, but office space as well for immigration, customs, health, and perhaps internal revenue and agricultural bureau representatives. There may be need for unusual local offices, for CAA staff, weather bureau, traffic control, mail and express, or airway communications.

Other Office Space: The planner should inquire from both management and the airlines as to other spaces that may be either functionally necessary, or possible sources of rental revenue—Pilots' Union, oil company offices, office space for dealers in aircraft or aircraft supplies, etc.

Traffic Control: CAA standards for this space should be consulted; and CAA approval—or, at least, satisfaction—is necessary. "Standards" are no longer in graphic form, but are written advice on the amount and the slope of glazed areas, dimensions

APRON SERVICE FACILITIES *are plotted against CAA peak-hour enplaned and deplaned passenger surveys* (below). *While it still commands surrounding air corridor approaches, all aspects of the field and apron are visible from the control tower at Missoula, Montana's Airport. Architects: William Fox & Oscar Ballas.*



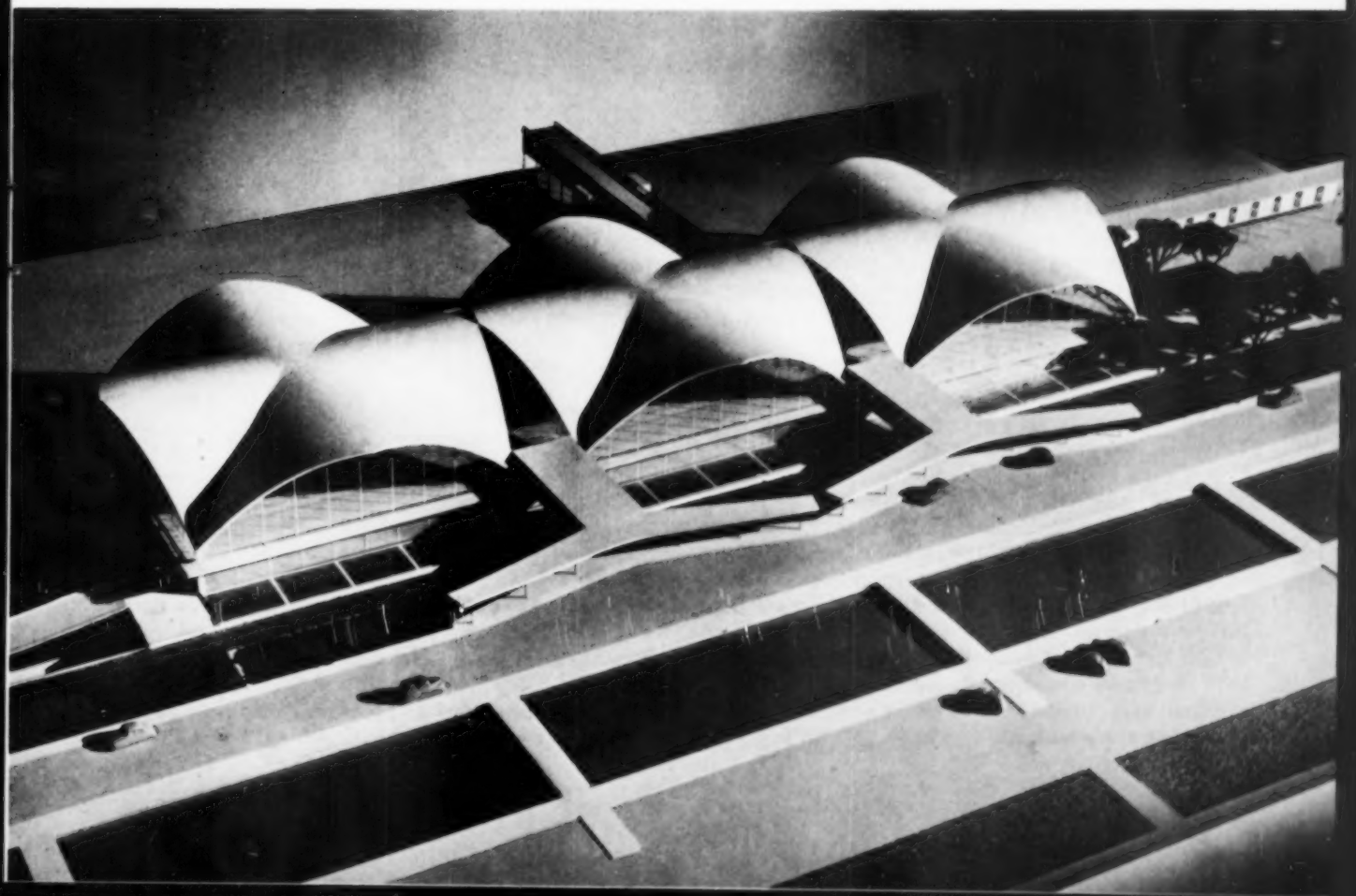
for equipment and circulation, and such important matters as height and visibility needs. Important general criteria include visibility of all air traffic operating within the airport's traffic pattern and of all aircraft traffic on the ground within the control area; equipment for mechanical control of aircraft in the air and on the ground; accommodations and conveniences for personnel so that nothing interferes with this necessary work. Space requirements will include the "cab" (glass-enclosed, 30 feet above the ground, surmounted by searchlight, radio, and weather instruments); office, toilet, equipment room, emergency engine generator space, and storage areas.

●

The spaces described above are often a part of a terminal building itself, for rapid co-communication, and because they are related to the major circulation flow in that

Observation deck and control tower of the Des Moines, Iowa, Municipal Airport (above). Architect: William N. Nielsen; Keffer & Jones, Associates.

How parking may relate to the terminal building is shown against concrete shells of the St. Louis Airport (below). Architects: Hellmuth, Yamasaki & Leinweber.



auxiliary facilities

Design of substation tower at the Missoula, Mont., Airport is a study of reinforced-concrete shapes (right). *All lighting and antennas for the field are centered in this counterpoint of short horizontals, against a strong vertical element. Architects: Fox & Ballas.*

building (although the control tower might be in a separate building). Other spaces or planning requirements which must be considered may be outside the terminal or in separate structures, and are related to broader airport operations. In this category would be included:

Roads and Parking: Approach roads to the terminal must provide easy access and departure, space for unloading and loading passengers and baggage, and sufficient parking space (which will have to be determined by studies of peak-hour traffic and travel habits of the passengers in a particular community). Parking facilities must also provide for taxis, limousines waiting for plane arrivals, service, and employe needs. It may be desirable to segregate long-term from short-term parking; passengers from service and employes. The public parking areas may be a source of revenue, or they may be provided as a public service. Other ground traffic needs might include a service station and a storage and repair garage.

Airport Maintenance and Protection Facilities: These will be determined by the size and character of the airport operation. The heating plant, for instance, may be in the terminal building, or may be a separate structure. Fire protection may require a fire house; police protection may call for a police station.

Cargo Terminal: The future of air cargo is now being seriously discussed and studied by many groups. The airport planner will find two schools of thought: a strong belief on the part of many that the growth and the obvious potential in air cargo will soon warrant separate cargo terminals with their own network and their own facilities; and those who point to the fact that often air cargo is now handled as top-off loading (bringing the plane's weight-load up to maximum when the passenger load is light) and who believe that this is a continuing problem which will require cargo-handling space to be very near passenger-loading stations at the apron. While the imaginative designer, looking to the future, should investigate studies made by Lockheed, the Air Cargo Advisory Committee of the National Security Industrial Association, and others, most architects will find that the airport management already has firm ideas on the subject. Truck delivery and pick-up, cargo handling, working areas, and office spaces are the prime requirements.

Air mail, air parcel post, and air express (really separate considerations) make up the bulk of the nonbaggage cargo handled at most airports. Since carrying mail is an important part of airline business, the interrelation between government spaces and airlines operational spaces must be studied for each terminal; there may be special considerations for transfer and inter- or intra-airline co-ordination. Air express is a different problem, since handling is by an independent agency, by the airlines, and by a consolidated service at various points.

Hotel Accommodations. Most controversial of the extra-service activities is the provision of sleeping space for passengers and crew at the airport. It is a tempting idea to gain this additional revenue, but a possibly dangerous business enterprise. Conflicts with downtown hotels have been mentioned. In addition, few passengers would willingly and voluntarily choose to stay at the airport—far removed from the town's activities and social life—and will do it only by necessity or for convenience under unusual circumstances. Several hours' layover between flights—which will be avoided if possible—or an unexpected delay in a flight are the main reasons for hotel accommodations at this spot. But one expert feels that, "with the airlines completing between 97% and 100% of their scheduled operations, you are attempting to build a business on the failure of the air carrier to maintain or complete its schedule. The air carriers are trying to lick even their present small percentage of failure. A 0% to 3% failure on their part, which presumably will be reduced, does not seem to be a sound premise on which to build a hotel business." Hotel space at the airport would be a convenience for flight crews, and this revenue might be steady, but fluctuation and high peaks (weather or mechanical trouble) would make other rentable rooms an unpredictable commodity. At some international ports, where overnight stays are not uncommon, hotel space for passengers seems to be more practicable.

Hangars. Separate hangar facilities may range from storage for private planes at a small airport to storage and repair areas for the largest type of aircraft at the big international port, plus space for such other aviation activities as flight schools and aviation clubs. Hangar design is based on specific requirements, and has progressed rapidly, in a structural sense, in the last decade. The next six pages are devoted to discussion and illustration of many advanced concepts in the United States and abroad.

Daring hangar constructed near Rome during World War II. Designed on the lamella principle, the structure is primarily composed of precast-concrete units. Size: 120' x 366'. Pier Luigi Nervi, Engineer

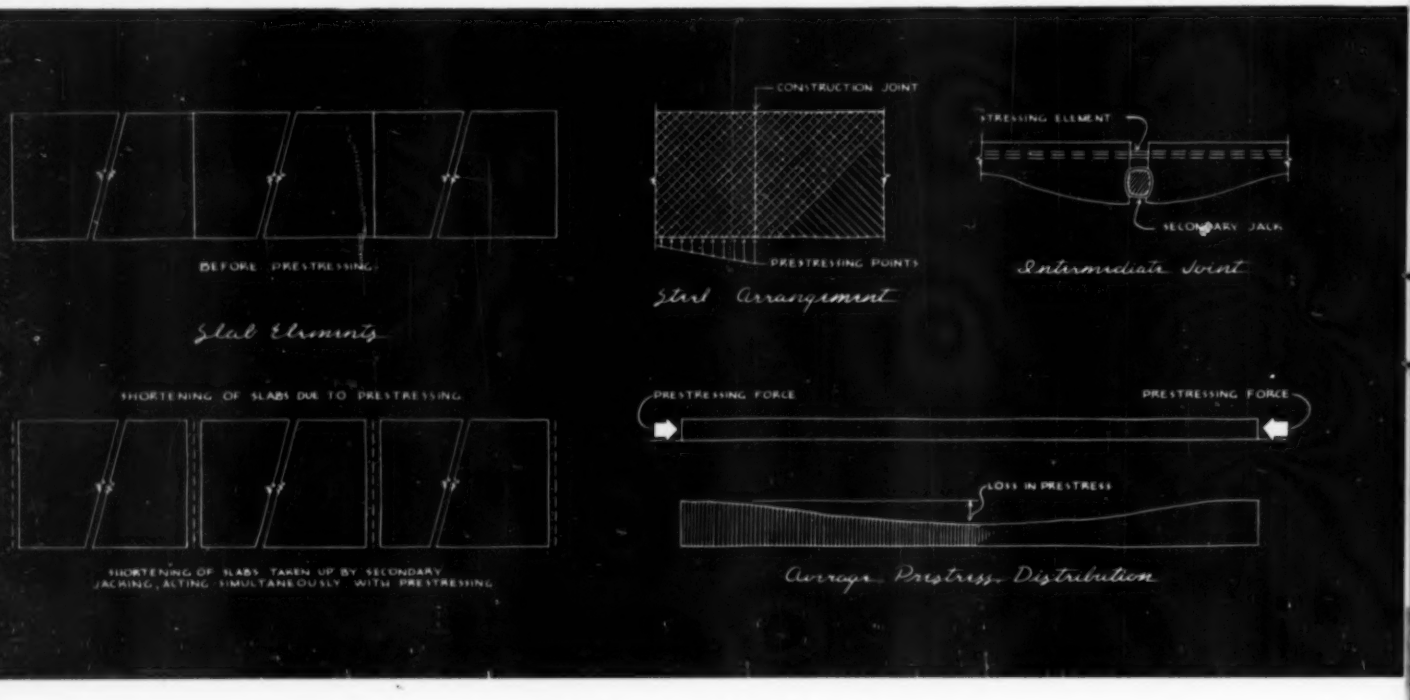
hangar design

prestressed-concrete floor construction

A major problem confronting airport designers has been to develop a slab for hangar floors (and runways) strong enough to support heavy loads, yet flexible enough to follow the local deformations of the supporting soil. An equally important problem for airport owners has been the costly maintenance of construction and expansion joints. The Preload Company, Inc. (New York), a firm of engineers specializing in prestressed design, believes that it has found a solution for both problems in a new-type, thin, prestressed slab which minimizes, if not altogether eliminates, expansion joints. This company's proposed solution utilizes a 4-in. slab prestressed by jacking in two stages. Their contention is that due to its extreme flexibility and high compressive prestress, the slab will be capable of following the uneven deformations of the soil and sub-base under load and will recover to be free from cracks after removal of the load. Such a slab, designed to be free from cracks normally leading to the deterioration of heavier reinforced concrete mats, will require minimum maintenance and will have a long life expectancy.

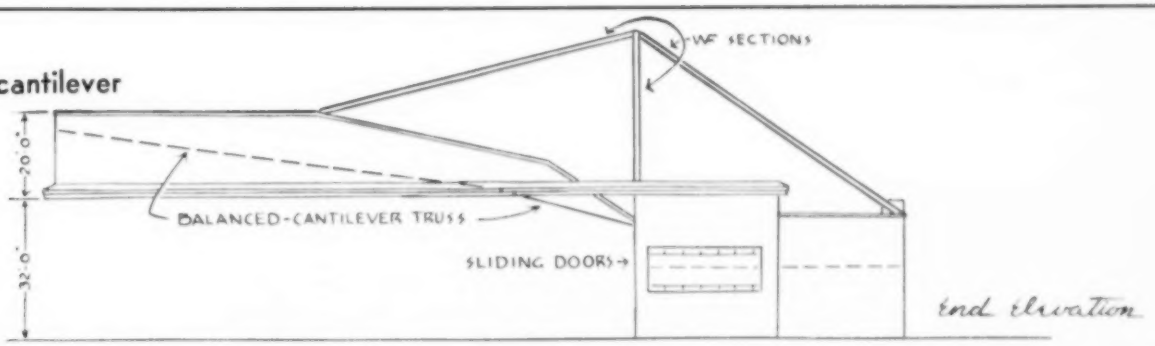
By this method, the prestressing bars, first coated to prevent bond with the concrete, are placed over the subgrade in a two-way diagonal pattern (*illustrated below*). The concrete is then poured and the bars allowed to extend slightly beyond the edge of the concrete. After curing, the bars are stressed and anchored; because of their diagonal pattern, they force the slab into compression both longitudinally and transversely. Due to the extreme length of the slab, however, this force is insufficient, as much of the compression is absorbed by friction on the sub-base as the slab attempts to shorten elastically under the stress.

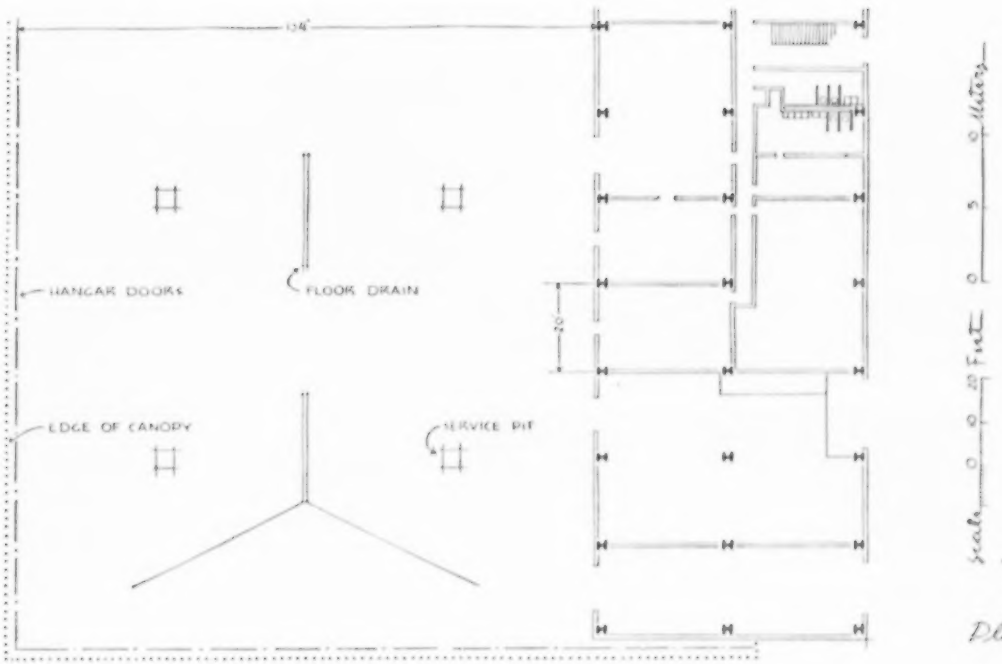
Here is the unique feature of this concept. To overcome the above loss and to maintain the slab in its original overall length, flat jacks are placed in convenient intermediate transverse construction joints and expanded simultaneously with the stressing of the diagonal bars. This confines the elastic shortening to the tranverse construction joints. The joints are then packed with mortar and after hardening of the mortar, the jacks are released. The action of the bars then keeps the joints under compression. As a result, one has, in effect, a completely monolithic slab without expansion or construction joints as such.



Sketches indicate slabs before and after prestressing, diagonal pattern of bars, location of secondary jack, and diagram of average prestress distribution.

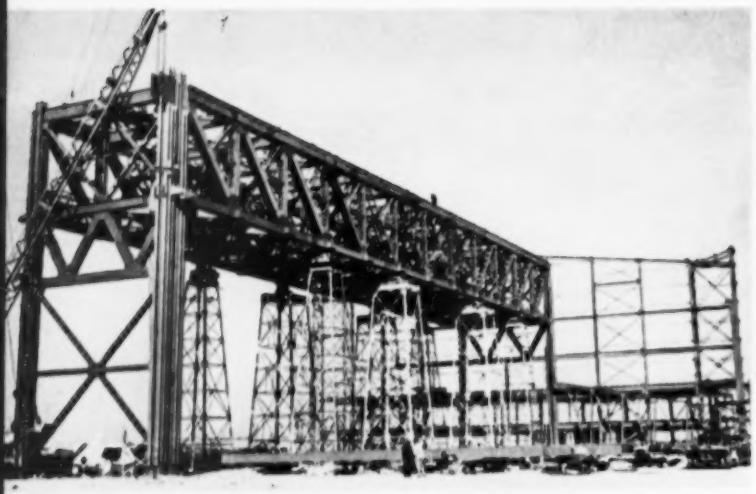
balanced cantilever



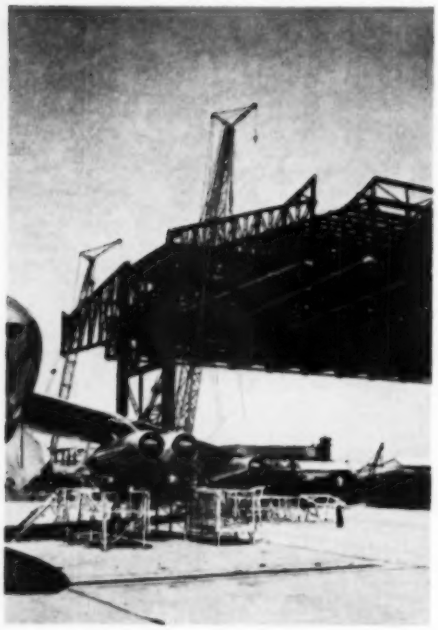


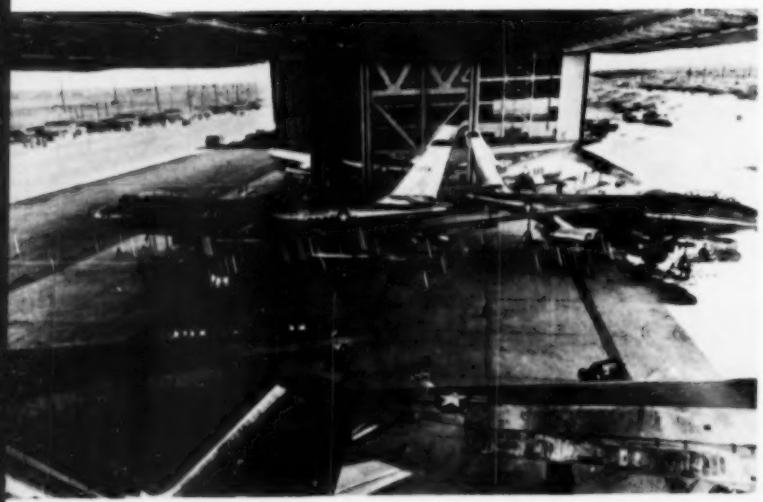
This balanced-cantilever construction system can roof an area 134 ft deep, of unlimited length, totally without interrupting columns—a major advantage for hangars, as planes can have unobstructed ingress on three sides. The roof is supported by specially designed cantilevered-steel trusses, 20 ft on center, hung from a steel framework extending above the roof surface (*drawings, above, illustrate single unit; photo shows model of double unit*). It has been reported that hangars of this type can be erected for $14 per sq ft, or less, and the first such structure is expected to be under construction soon at Idlewild Airport, New York. For that job, 4-in. prestressed-concrete floors that can support a single-wheel load of 60,000 lbs at any location are now being investigated. A radiant-heating system with an estimated heating cost of $0.17 per sq ft per year and a deluge-type sprinkler system representing 8½ percent of the total hangar investment have been specified. The Erwin-Newman Company, Houston, have patents pending for this balanced cantilever design and the first hangar to use this system will be erected by the Thompson-Starrett Company, Inc., New York.

steel



Designers of the Boeing Airplane Company hangar at Wichita used double-cantilever construction to provide 195' x 265' bays with 55' clearances from ground to bottom of steel trusses; three such bays house 12 B-47's (left and below). Asphalt-asbestos-coated sheet-steel that requires no painting was specified for the siding. Doors, claimed to be the world's largest (each is 55' high, 66' wide, and weighs 47 tons), were produced by the International Steel Company.



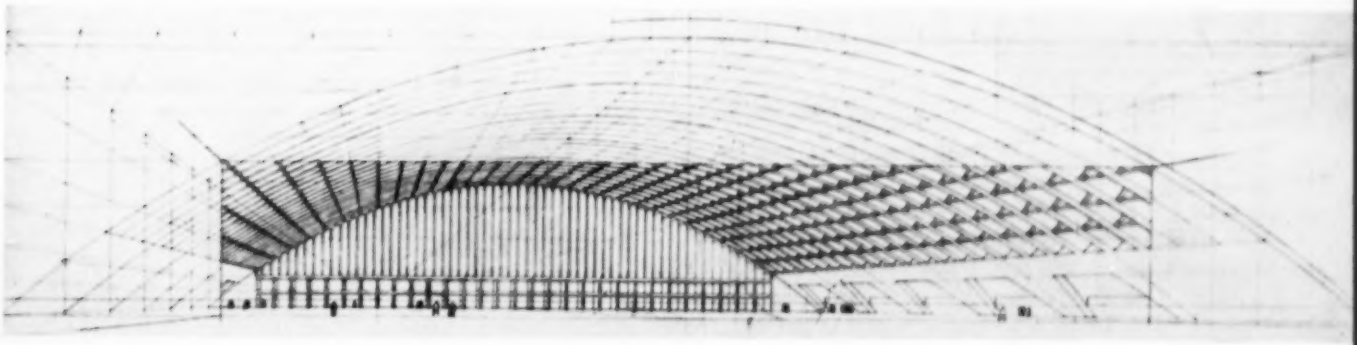


Standardized maintenance docks for commercial aircraft are used as economical maintenance and service facilities to supplement larger service hangars. This dock (below), mass-produced by the Luria Engineering Company, consists of a rigid steel frame, measuring 70' x 50' and 18½' high to the eaves, a 20' x 20' lean-to, and a 15' x 10' masonry boiler room. Although siding and roofing (in photo) are galvanized-steel sheets, other materials may be substituted.

concrete

Hangar roof for British European Airways, London (above), *is supported by prestressed-concrete purlins, beams, and girders. T-shaped beams, 110' long,* (above right) *were formed by joining 7' precast sections with prestressing cables; top flanges are 3' wide and 4" thick. At front of hangar, T-beams are supported by 150' long cast-in-place, prestressed, hollow-box girders. Each girder is 14' deep and 5'-3" wide and was prestressed by 41 parabolic cables. Ramsey, Murray & White, Architects; Scott & Wilson, Consulting Engineers.*

Proposed reinforced-concrete hangar for Buenos Aires Airport, that will have span of approximately 590'. Nervi & Bartoli, Engineers.



wood

Six elliptical, glued-laminated Douglas fir arches (below), spaced 20' apart, span 180' at Continental Can Co.'s new hangar at Morristown, N. J. Each arch has a constant cross-section of 11" x 39", is 48' high at center, and weighs approximately 20,000 lbs. The three-hinged principle is employed with a pin connection at the peak and a rockerplate at the base. Wigton-Abbott Corp. designed and built the structure; Timber Structures Inc. fabricated the arches.

Magnificent wood arches (above and upper right), in a hangar at Congonhas Airport, São Paulo, Brazil, have a clear span of approximately 230'. The hangar was designed and erected by Estruturas de Madeira S. A., São Paulo; E. Hauff, Chief Engineer.

radiant heating saves money

by John K. M. Pryke*

Inherently, an airplane hangar is a most difficult building to heat. In addition to the possibility of excessive air infiltration, due to the immense areas of exposed wall and roof, the structure possesses one or more removable sides in the form of the main hangar doors. The frequency of operation of these doors is unpredictable and, even with normal wind conditions, a partial opening for only a relatively short period of time may completely empty the building of all its warmed air, in a matter of minutes.

Conventional heat-loss calculations for hangars indicate that the air-warming heat required is at least twice as much as that needed to offset the normal heat transmission through the structure. Furthermore, an exact calculation of this air heat load is impossible due to the great variations which may be experienced due to door opening. A further problem encountered with larger hangars, due to their height, is that of warm-air stratification. That is to say, the heated air tends naturally to rise to the top of the hangar under the roof, with consequent movement of colder air to the floor level.

In an airplane hangar, if the main floor is used as the radiant source, the following advantages of radiant heating will at once be apparent in overcoming the problems of efficient heating: (1) The heat is where it is most needed—namely at the floor; (2) the heat medium, being largely independent of the necessity for warming large volumes of air for its transmission, is not greatly concerned with problems of infiltration and other air movements; (3) excessive heat loss is prevented when doors are opened, with consequent economy in fuel consumption. Savings in fuel up to 30 percent have been experienced.

As regards installation costs, the use of radiant heating presents problems which require careful analysis to be successfully overcome. The ratio of field labor to material cost for radiant-heating system in any type of building is quite different from that for a conventional radiator or hot-air system. The radiant-heating installation involves less material cost and greater field labor cost than does a conventional installation. This factor is the chief reason why so many of the earlier radiant-heating installations were so much more expensive than conventional systems. Fortunately today the situation has changed and with shop-fabricated pipe coils of standardized design available, it is easily possible to reduce field labor to reasonable dimensions.

For airplane hangars, due to the large areas of floor involved, it is doubly important that economy of design be achieved. It has been found that with well designed radiant-heating installations, savings in annual fuel costs can offset their greater initial cost in about five years; therefore, they become a worthwhile investment for the hangar owner.

* Principal, Slocum & Fuller, Consulting Engineers, New York and Boston.

fire protection

by Dawson Powell*

The airplane hangar brings together a structure of great value, planes that are often worth millions of dollars, and flammable materials that create fire hazards of the highest degree. These three factors call for and justify an investment in the best fire-protection equipment available.

The overwhelming majority of competent opinion, represented by such organizations as the National Fire Protection Association in the United States and the Air Ministry Fire Services in England, recommends automatic-sprinkler systems as the basic requirement in hangar protection. These should be supplemented by instantly available supplies of foam, to blanket spills of gasoline, or dry-powder projectors, to spray dry powder over sheltered or hard-to-reach hot spots where it can release carbon dioxide gas to mix with flammable vapors, diluting them to extinguish the flames.

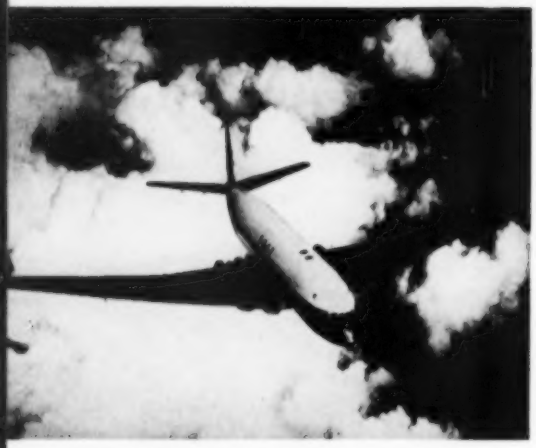
First place in adequate fire protection is given to deluge-valve controlled, open-head sprinkler systems; reasons for this selection are based upon the nature of the fire itself. A principal factor is that gasoline (though it vaporizes at temperatures far below zero) requires heat to change it from a liquid form in which it cannot burn, into a vapor form in which it will burn. High temperatures which feed huge quantities of vapor into the flame zone are reduced or prevented from developing by evaporation of water droplets from sprinklers. Solid combustible materials are prevented from reaching their distillation temperatures and tanks of gasoline in nearby planes are kept cool enough to prevent their overflowing or exploding to add to the flammable material involved in the fire, thus preventing its spread.

A factor often overlooked in the many hangar fires which have been successfully controlled by automatic sprinklers is the dilution of flammable vapors by water vapor from the sprinkler sprays. This dilution, while seldom adequate to produce complete extinguishment of gasoline fires, definitely reduces the fire's intensity lessens chances of reignition, and permits closer approach by fire fighters with foam or dry-powder streams. No other fire control means competes with the effectiveness of spray from sprinklers in limiting fire spread.

The large areas and absence of subdividing fire walls call for exceptionally large water supplies to protect hangars properly. It can be provided, even at outlying airports such as the Westchester County Airport at White Plains, New York, where 400,000 gallons of water, enough to feed the sprinklers in any one hangar for an entire hour, has been provided. There, it is stored below grade in a hillside reservoir and delivered in adequate quantity and pressure by two 2000 gpm electric pumps—one of which is equipped with dual drive for operation by a manually started Diesel engine. Rate-of-temperature-rise controls for a deluge-type, open-head sprinkler system assure immediate attack upon and effective localization of any starting fire.

* Technical Editor, Grinnell Company, Inc., Providence, R. I.

the airport commission



In business practice, as in planning and design, the airport commission is likely to be a complicated one for the architect, as well as for the consulting structural, mechanical, and electrical engineers who work with him. P/A's Editors have talked to many architects and engineers experienced in this building type, and opinion seems to be unanimous; the multiplicity of "clients" to be satisfied makes approvals difficult and changes likely; relationships with consultants hired directly by the airport authority as experts on one phase or another of the problem are not always pleasant; fees, generally, are too low.

the client

The various agencies, groups and individuals who must be satisfied at each stage of programming, master planning, and designing have already been mentioned. There is the actual client, with whom the contract for architectural services is signed —an arm of a municipal government, in most cases. There are representatives of other local governments—state, county, and municipal. There are the airlines—the principal users of the buildings—but they are not always a uniform group. Even when they form themselves into a committee, they will not speak with one voice, or any consistency. There are many federal agencies and departments: primarily the CAA, which will be the most helpful, though sometimes the most rigid, subclient; also the U. S. Post Office Department; the U. S. Weather Bureau; and at some airports the U. S. Public Health Service; the Bureau of Customs; the Bureau of Immigration; the Department of Internal Revenue; and the Department of Agriculture. Local fire and police departments may have to be consulted. There may be specialists whose wishes have to be considered. If principal concessionaires are selected early, they may have a large voice in planning. It becomes the problem of the architect and his own team, then, to resolve conflicting claims and unco-ordinated interests, to think clearly through controversies where each side is dogmatic and assured, and to avoid the compromise that too often results from the attempt to satisfy everyone. Lessons that experienced architects would like to pass on to their confreres are: even though information must be gathered from many sources, the municipality is your basic client and its representative should make all final decisions, on the advice of the architect-planner-coordinator; always obtain approvals in writing, so that changes after an approval date are recorded as *changes*, not as mistakes or misunderstandings.

the expert

Since the airport and the airport terminal building together constitute a very specialized problem, specialist-consultants have become important. Some serve as a source of information for which the planner would otherwise have to search; they are experts in traffic analysis, economics, and airport management. Others are less helpful. As one architect expresses it, "The specialist-consultant, usually honest, but anxious to please and flatter the client, often adds to the confusion by presenting a voluminous report (bound in leather, with the mayor's name gold-leafed on the

cover), that is somewhat unrealistic and over-optimistic. His fee is large; added instead to the architect's fee it could result in a less ornate but more realistic architectural study. Perhaps the pitfalls an architect risks in working with the specialist-consultant could be avoided if such an expert were to serve as part of the architect's team and be retained by the architect, rather than by the client directly."

Other experts, should be consulted freely and their advice carefully studied. These include CAA representatives (the architects and other specialists of the CAA are informed, helpful, anxious to advise without imposing standards or dictating design); technical representatives of the airlines; manufacturers and suppliers specializing in this field; and, if an experienced man is selected early enough, the airport manager. Most of this technical advice is free, related to local experience, and therefore as useful as that provided by outside sources. Aside from the CAA, the most helpful sources for *technical* ininformation are the airlines. Their staff members can provide data on traffic, financing as it relates to airline operations, various aspects of engineering, and operational problems. Some major airlines have staff architects; it would be foolish not to take advantage of their experience and the studies they have made.

fees

The architect designing an airport will find that the most important difference between this problem and, let us say, a school or an office building, is the early and clear definition of the problem. Master planning must be based on ultimate needs, and the building program broken down into stages. This means double or triple research estimates during the programming period, and a clear indication on master plan and preliminary working drawings of the stage-by-stage construction program recommended. Other building types may require a similar planning-for-expansion approach; usually, however, such problems carry a separate fee for master-planning. In the case of the airport, growth is anticipated to be so fast that expansion and provision for expansion become basic parts of the original problem. Each line that is drawn must be drawn with a thought for its meaning in the immediate program and a further thought for its help or interference in the next stage and the ultimate program. There is general complaint that the normal charges even for "complicated public buildings" are woefully inadequate. "No architect should undertake a major airport planning program on a fixed fee," says one voice of experience. "A cost-plus arrangement is the only way he can possibly come out on top. He has many groups to deal with; he spends exhorbitant time on program studies and preliminaries; and he will meet change after change of mind, which he had no way of anticipating." Even an x-times drafting cost arrangement doesn't work well, for the time spent in conferences and interviews has no normal relationship to time spent in the drafting room.

In conclusion, airport planning and the design of structures related to airports is an interesting commission for an architect to get. We have not talked to one who did not enjoy the design problem and its unusual factors, but all advised others approaching the problem for the first time to understand and guard against the risks and difficulties involved.

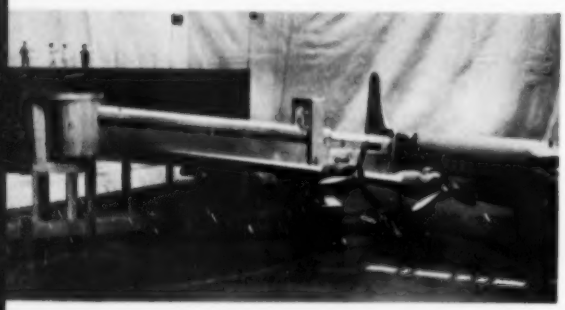
the future of airport design

Anyone speculating about, or attempting to plan for the airport of the future (let us say a period 25 years from now) comes up against a peculiar conflict. On the one hand, there is the unexpectedly great growth of the industry and an already apparent radical change in plane design (jets and helicopters now with us; atomic energy possibly applied to aircraft power; serious discussion of supersonic speeds in the thousands of miles per hours, despite the penalties of increased fuel costs for commercial operations). On the other, the airlines have a lack of investment capital plus an inherent conservatism with regard to the design of ground facilities. Someone is going to take some of the imagination which fires the students of space-flight and rocket travel, apply it to the routine problems of getting from New York to Chicago as quickly as possible, and come up with sensible plans for airports very different from the ones published in this issue. The Editors are not going to suggest what these solutions might be, but simply point to some of the factors which will both stimulate and limit future planning. And on the following two pages, we show an airport which never got built, one which was for a very specialized purpose but indicates some advances in planning that might immediately be made on a wider scale.

First of all, what would be the aims of future air-flight toward which planning might be directed? Throughout this issue, it has been repeated that one travels by air to get from one place to another quickly — and reduction of that time-distance factor will continue to be the principal aim of the industry and its planners. This means faster flight, less time lost on the ground, more efficient operations at the terminal. Related to this need is the knowledge that commercial air transport must be put on a more secure paying basis. This means more customers, reduction in fares, lessons learned from the presently orphaned "non-scheds" and, again, more efficient operations at the terminal. It also means the development of new untapped uses and therefore new clients for air flight. What changes in the pattern of American life are foreseeable which might affect or influence air travel? The moves toward decentralization—whether for defense or social-planning reasons—are the most obvious. Certainly, then, providing a service for a lesser distance factor than that which now limits air-travel business (cities under 100 miles apart are too close to generate sufficient air traffic for present carriers) would open up new fields of income, service, and planning.

What of aircraft developments which may have an effect of ground planning? At two extremes of travel, important possibilities are opening up. For long distances, the jet, the rocket, the atomic-fissure power plant—with their increased speeds and greater wing loads—are either here or are real possibilities. Their effect on airport planning—length of runways, loading and servicing facilities—is not clear yet. At the moment, the faster the plane, the greater the approach area and the longer the runway needed for landing. But the very speed of landing and take-off may stimulate further experiment and development of catapulting take-off and drag-landing devices, which could actually reduce the required runway length. At the other end of the travel scale, for short-distance passenger and cargo haul, the helicopter is approaching a development which will permit carrying of up to 40 passengers, making it commercially feasible and opening up two new air-travel markets — taxi service to bridge the time-distance gap between present airport and present commercial or residential areas; and commuter or short-distance travel between the suburb or satellite community to central city, or between two cities now considered too close to generate air travel.

These influences may not be realized for some time in planning, except in the



Mobile, covered gangplanks, as developed by the Airways Engineering Corp., provide protected passenger loading from finger to plane (above). Fewer apron positions are required, and more passenger miles may be flown, since loading time is reduced.

almost immediate need for helicopter port planning. A heliport can be a simple thing, so far as aircraft circulation on the ground goes; the substitution (or the addition, at existing airports) of the touchdown pad for the runway certainly eases planning for the airport designer, although the helicopter may complicate traffic in the air. For the passenger, baggage, and incidental requirements, there would not seem too much change indicated from circulation and space-need described in this issue. The larger and faster and heavier planes, no matter what ultimate runway requirement, will be certain to influence planning and zoning in the area around the airport—approach is flatter, radius of turn greater, and hazard and noise are both increased. At London, for instance, a sound barrier is being constructed to screen the neighborhood from the noise of the B.O.A.C. jet planes.

However, it would not be necessary to go far into the future to improve terminal planning, if certain limitations were removed. One of the greatest time consumers, and one of the sources of greatest inconvenience is the need for loading passengers and cargo into plane openings far above the ground. Level loading appears to be a prime requisite to expedite operations. No matter how efficiently a building is planned on a two-level scheme, the passenger must go up, down and up again; baggage must do the same. Time and manpower will be saved when we eliminate bottlenecks which today make level-loading devices too expensive for many airports. Loading of planes under cover, or at least close to cover, by using tracks and dollies to take them to favorable loading positions, will reduce service equipment, personnel, or both, and lessen the necessary width of the apron. Other improvements in planning which have been discussed under the various headings of this issue have to do primarily with possible consolidation of services.

Three changes, not within the architect's design scope, will have to occur before truly efficient air terminals are planned. We list them as follows:

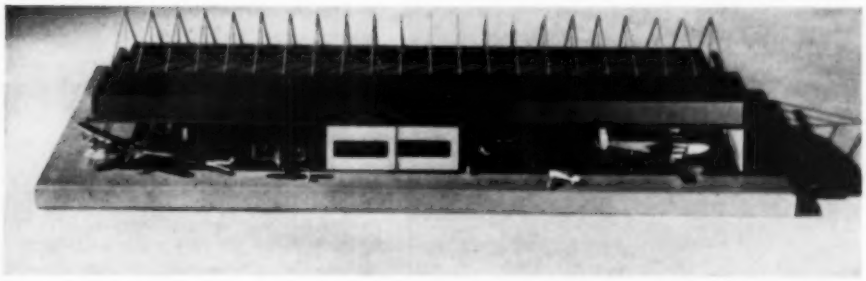
1. The airlines must stop letting commercial conflicts interfere with efficient planning. Many of them are not profitable enterprises, and yet they are in such a strong position, as users of the facilities, that they can prevent consolidation of services which would aid efficiency; they can cause a complete separation of other services which should, for the convenience of the passenger, be at least centralized and co-ordinated; they can cause planning problems by their insistence on privileges under the "most-favored" system; they can complicate the apron-loading process by their refusal to allow commingling of fuel.

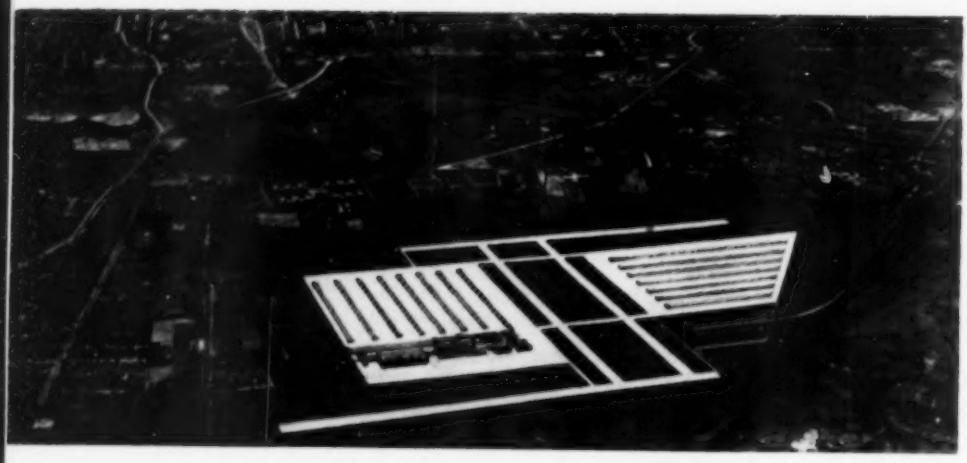
2. The aircraft manufacturers must reach some degree of standardization in design of planes, so that an equal degree of standardization of procedure and equipment can be applied at the terminal. An outstanding example of this problem is the expense of the loading device which has to reach all over the apron to find airplane doors at different levels.

3. The cities and other government agencies which build the new ports or improve present ones are going to have to decide whether they are in the supermarket business or whether they want to provide terminals as a public service. Certainly no one objects to *necessary* commercial facilities at the airport, and if they help the town pay for the building, fine. If carriers could afford to build their own stations, the public might be served first, and business enterprises provided second.

These improvements are beyond the province of the architect and the engineer in most individual cases, but perhaps agreement on their desirability and consistency of pressuring by all of the architects concerned with the problem, will help effect changes in the direction of ideal airport planning.

The balanced-cantilever truss of Dr. Paul Rongved and Cyral P. Erwin may be a potential solution for the huge terminal, free from interior obstructions for complete flexibility and infinite expansion (below and acrosspage; drawings on page 111).

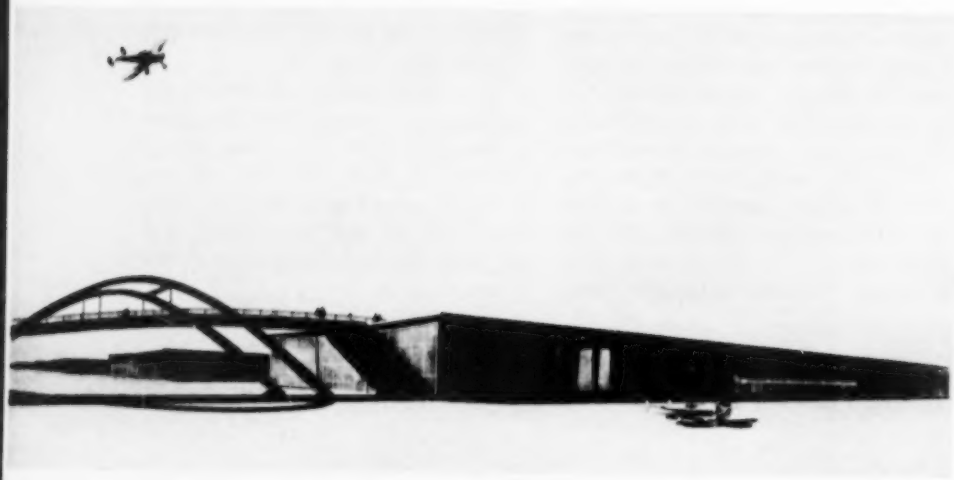




Secaucus Airport would have been well located in relation to the community, on property which is ten minutes distant from New York's Times Square. Aircraft circulation at the airport would be primarily to and from private storage hangars; building area is to the west (left foreground).

proposal for a private airport

location	Secaucus, New Jersey
architect	Charles M. Goodman

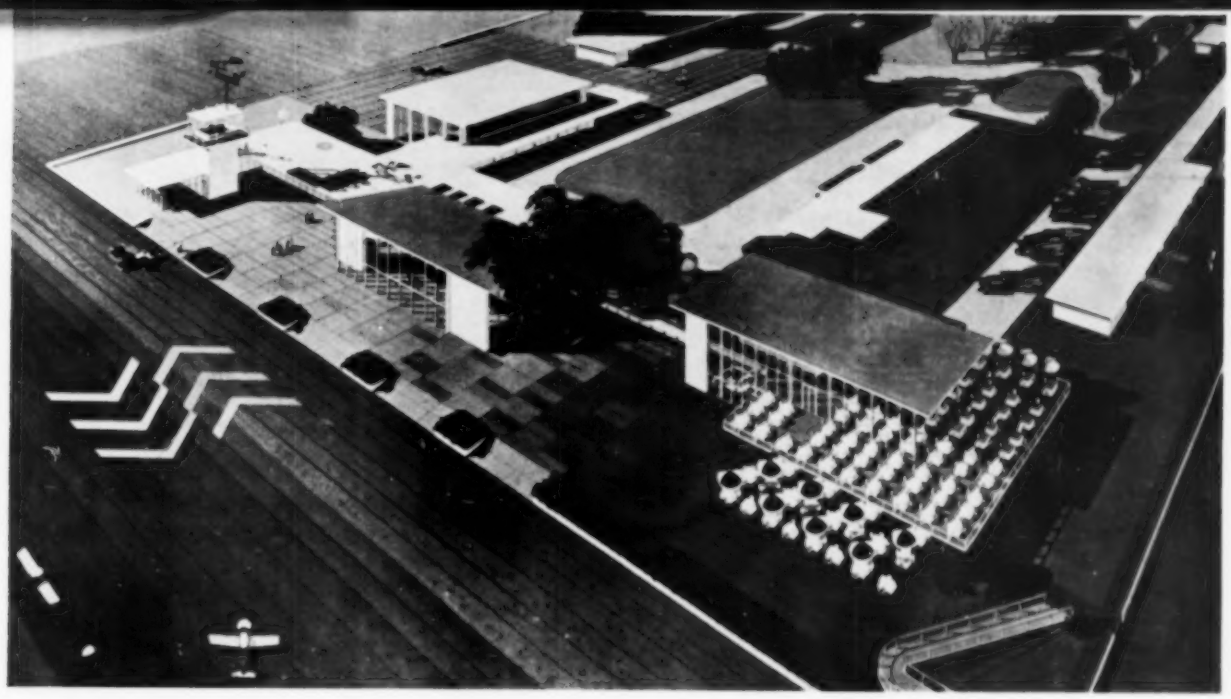


As World War II drew to a close, many aviation enthusiasts believed that private flying would reach a volume greater than has since developed; and the airport facility illustrated here, designed at that time, was a victim of exaggerated hopes. Although its program seemed sound then—and working drawings were carried to completion—it was never built. However, it is so advanced in some of its concepts that it is worth studying today.

There are two important types of private-plane operation—the individual "cub" activity; and what has come to be known as executive flying (business concerns using their own planes). The first, perhaps because it was oversold, has been disappointing to manufacturers and to those who based airport development hopes on its growth. Executive flying has reached important proportions, but terminal facilities for the company plane are usually included in the municipal airport program, and have not resulted in any special building construction.

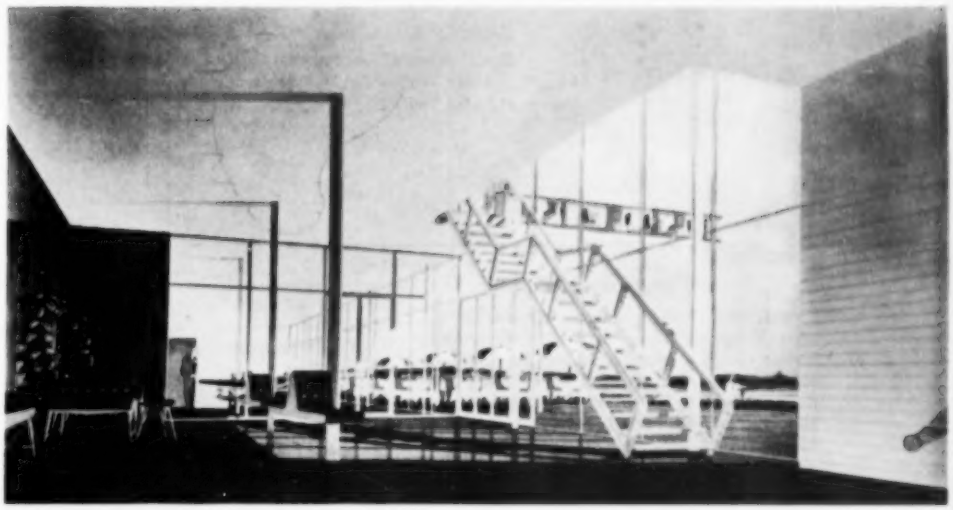
Secaucus Airport was conceived as a fa-

Aircraft storage hangars (above, left) *were designed for easy traffic of many private planes. Aircraft-maintenance area* (left) *would provide repair and check-up facilities, adjacent to ground school and accessory display and sales spaces.*



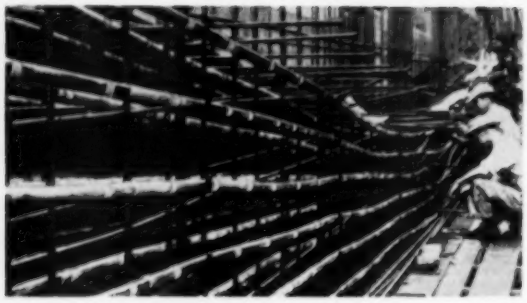
cility for both types of private flying. No ticketing spaces or commercial airlines requirements had to be considered. On the other hand, hotel facilities, restaurant space, aircraft storage and repair hangars for private owners, sale and display of parts, and flight instruction areas assumed unusual importance. Architect Charles Goodman solved his program by a series of connected and related structures planned with an openness that is lacking in any major airport today.

In the view at top of page, the main building in the foreground houses eating facilities *(right)*, flight service area *(center)*, and airport operations offices *(left)*. Stretching away to the right is a true shopping center; in the background *(left)* are ground school and maintenance spaces. The free, yet thoughtful, relationship of the units, opening up possibilities of landscaping and reducing scale to a human ratio, introduces a more intimate design approach—similar to that achieved in some contemporary school, shopping center, and community-recreation groups.



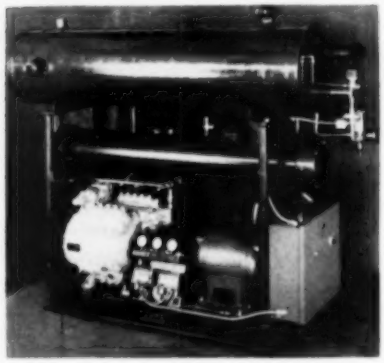
Illustrations above show the main dining space (top) opening out to a terrace which adjoins the field; and the shopping center (lower picture) where, under normal shopping conditions, users of the airport could find specialty shops, drug store, and even a well-planned nursery. A hotel was designed for adjacent property.

p/a products



Plastic tubing (drawing, far left) *to prevent bond and provide a friction-free covering for cables or rods in prestressed-concrete construction has been successfully used. A ½" overlap, faced with interlocking longitudinal corrugations, combines with resiliency of plastic to prevent concrete mix from seeping into interstices of cable wire. Tubing being installed over wire strands of heavy prestressed-concrete girders is shown* (above). *Anchor Plastics Co., Inc., 36-36 36th St., Long Island City 6, N. Y.*

Visitors to the 11th International Air Conditioning Exposition were among the first to see a new cold generator designed to provide a single-unit source of large quantities of cold water for air-conditioning and refrigeration systems requiring between 10 and 50 tons of cooling. This self-contained unit requires only simple water and electrical connections and eliminates complex installation and maintenance problems formerly encountered in jobs in this range. The Trane Co., La Crosse, Wisc.



air and temperature control

Centrifugal Pump: built in sizes from ¼ hp to 5 hp, close-coupled centrifugal pump for air conditioning systems can be installed in any position. Leakproof operation; brass permanent-mold impellers prebalanced to give especially quiet operation. Also applicable to lawn sprinkler systems, swimming pools, and many industrial uses. Lancaster Pump & Mfg. Co., Inc., Box 778, Lancaster 1, Pa.

Combination Thermostat: new residential heating-cooling thermostat available this summer eliminates need for sub-bases or separate-control switch plates. Three built-in selector switches enable homeowner to choose either heating or cooling, to regulate fans, or to turn either system on or off. Sensitive, low-voltage type; two models: one for one-stage heating and one-stage cooling, the other for one-stage heating and two-stage cooling. Minneapolis-Honeywell Regulator Co., 2753 4 Ave. S., Minneapolis 8, Minn.

Liquid Contact Method: new spray method in equipment for drying or moistening atmospheric air. Relative humidity and temperature regulated independently to obtain closer control of results. Filtered fresh air enters spray chamber where spray (either refrigerated air or "Hygrol") either adds moisture or removes it by absorption or by condensation. Economical heating and cooling with room conditioners of any type. Niagara Blower Co., 405 Lexington Ave., New York 16, N. Y.

Hidden Heating: new baseboard convector for residential hot-water heating systems; also has extensive applications in apartment buildings, hospitals, schools, hotels, and offices where units may be used in conjunction with regular convectors. Concave-radius curve at base of unit eliminates dust-catching spot. May be installed free standing or partially recessed so that face is 1½" from wall. Continuous horizontal openings uninterrupted by joints or visible supports. The Trane Co., 2020 Cameron Ave., La Crosse, Wisc.

Evaporative Condensers: new line of evaporative condensers offered in six sizes with capacities from 7½ to 40 tons. Equipment is of heavy-gage steel construction, hot-dipped galvanized after fabrication. Can be readily disassembled in the field and reset in any of 16 arrangements to meet specific installation requirements. United States Air Conditioning Corp., 3300 Como Ave., S. E., Minneapolis 14, Minn.

Poweraire Ceiling Fan: 250 cfm ceiling fan for ventilating small kitchens and laundries. Equipped with specially designed plastic blades which are bendproof and warpproof. Removable one-piece steel grille finished with baked-on white enamel. Steel duct adapter permits easy assembly to a standard 8" duct if required. Brushless, 2-pole, induction-type motor. Westinghouse Electric Corp., 401 Liberty Ave., Pittsburgh 30, Pa.

construction

Microwood: new wood product imported from Europe consists of a finely-shaven layer of wood laminated to a thin paper backing; thickness of wood and paper combined is .005". A wall and ceiling covering for residential, commercial, and public buildings. Can be stamped, painted, varnished, punched, and polished. Available in ten African and European woods, ranging from light to dark shades and in rolls of standard widths and lengths. David Feldman & Assoc., Importers, 525 Walnut St., Cincinnati 2, Ohio.

Ductile Iron: cast iron that can be twisted and bent and will also bounce on impact rather than breaking, has over 500 established and 200 experimental applications. A small amount of magnesium and nickel have been added to gray iron; wear- and heat-resistant. The International Nickel Co., Inc., 67 Wall St., New York 5, N.Y.

doors and windows

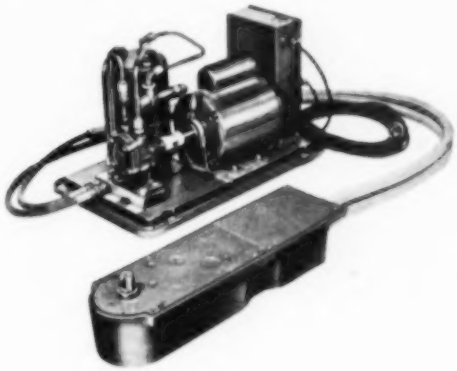
Spacemaster: a low-cost folding door for residences has steel frame with steel pantograph hinges at top and bottom and is covered with fire-resistant, washable, vinyl fabric. Available as a complete packaged unit in one neutral color and in three sizes. Installation time: 10 to 15 minutes. New Castle Products, New Castle, Ind.

finishers and protectors

Weathercote: improved weathercoating to guard against warp, swell, and check in exterior paneling and doors and other types of natural unfinished lumber for outdoor use. Slow-oxidizing finish has high solid content plus a small amount of wax; water and moisture repellent. Available in 1-, 5-, and 55-gallon containers. Nelsonite Chemical Products, Inc., 900 Monroe Ave., N.W., Grand Rapids 2, Mich.

A new ceramic-surfaced clay tile causes the architect to re-examine the whole concept of the usefulness and practicability of tile as an architectural material. One outstanding feature of the new Ceratile process is the fact that company designers are available to co-ordinate and execute special designs. In this way an architect can obtain any tile pattern to fit his own special requirements. Pacific Tile & Porcelain Co., Paramount, Calif.

This new door opener (below) opens any type of door (glass, wood, or metal) the instant a person steps upon the carpet leading through the doorway; it remains open until the person has walked through, then closes with a two-speed action. The system, consisting mainly of the door-control mechanism (concealed in the floor) and the hydraulic-power unit, has a number of important safety features. Dor-O-Matic Division of Republic Industries, Inc., 4440 North Knox Ave., Chicago 30, Ill.



insulation (thermal, acoustic)

Thermo-Glare Shields: glass-adhering shields of tough, chemically inert, flame and acid-resistant vinyl-plastic filter out annoying sun glare and eliminate need for painted windows or blinds. Applications particularly suitable to window areas of factories, drafting rooms, airplane towers and hangars, schools, and store windows. Shields also provide thermal insulation. Can be secured permanently to glass and can be removed when desired without difficulty. Filterzone Autovision Co., 641 Lexington Ave., Brooklyn 21, N. Y.

Sanded Form Board: new preformed insulating board with smooth, sanded appearance designed for use in low exposed ceilings; provides a more attractive unpainted ceiling and affords a surface better adapted to painting. Board also provides an integral part of poured-in-place gypsum and lightweight concrete roof decks. Standard size: 32" x 48" x 1¼" thick. Owens-Corning Fiberglas Corp., Toledo 1, Ohio.

sanitation, water supply, plumbing

Burnall Incinerator: new low-priced home garbage incinerator reduces waste to fine ash. Operates with any kind of gas, requires 1½ sq ft of space. Burner spreads gas beneath and through grate, quickly drying and consuming garbage and rubbish. Ash pan will hold month's accumulation of fine ash. Comstock-Castle Stove Co., Quincy, Ill.

Shallow-Well Water System: pumping unit with rated capacities up to 915 gallons of water per hour. Includes complete pump and jet combination mounted in tank, capacitor-type ball bearing motor, pressure switch, pressure gage, built-in check valve, and automatic air-volume control. Can be installed under shelves and cabinets in basements, kitchens, or utility rooms. Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.

specialized equipment

Tru-Angle: new adjustable protractor triangle permits drawing of accurate angles from base line; can be quickly set to precise graduations of one-half degree, then held in place with knobbed screw. Two rows of graduations: outer indicates angles from 0° to 45°, inner shows angles from 45° to 90° from the shorter base. Manufactured of clear optical shatterproof, heat-resistant plastic. Alvin Co., Windsor, Conn.

Fyre-Freez: new line of portable carbon dioxide fire extinguishers available in five sizes: 2½-, 5-, 10-, 15-, and 20-lb models. Feature squeeze-type valve which requires only normal hand pressure to actuate extinguisher after safety pin has been removed. Recharged by squeezing valve open to permit recharge gas to enter cylinder. Carbon dioxide approved for use on Class B (flammable liquid) and Class C (electrical equipment) fires; gas is noncorrosive and is absorbed into atmosphere following discharge. Walter Kidde & Co., Inc., 675 Main St., Belleville, N. J.

Drafting Pencil: push-button lead-holder-type pencil has lead sharpener concealed in top for consistently smooth, sharp drafting. Imported from Germany and competitively priced. Easy to disassemble; all parts completely replaceable. J. S. Staedtler, Inc., 53 Worth St., New York, N. Y.

surfacing materials

Conductive Floor Tile: electrically-conductive mosaic floor tile for use in hospitals. Recommended for all Class 1, Group C hazardous anesthetizing locations. Provides protection by dissipating static electricity, preventing accumulation of dangerous electrostatic charges, and providing electrical conductivity between persons and equipment in contact with floor. Unglazed, dust-pressed, vitreous ceramic tile in neutral brown; 1-9/16" x 1-9/16" x ¼" size with straight joint. The Mosaic Tile Co., Zanesville, Ohio.

Asphalt Roof Shingles: line of 12" tapered strip shingles now available in new green, gray, blue, and red shades created through use of pastel colored granules accented with white granules. Color blend, combined with shadow line, gives maximum contrast between shadow line and rest of shingle. Shingles are extra thick at butt. Flintkote Co., 30 Rockefeller Plaza, New York, N. Y.

Kenflex: new vinyl-asbestos tile available in 14 colors for use in residences and commercial buildings. Added variety of design possible with feature strip available in four colors. Colors go all the way through tiles. Tiles are greaseproof, alkali-proof, fire-resistant, and resistant to acids, cooking fats, oils, and gasoline. According to manufacturer they can be safely installed on concrete in direct contact with ground. 9" x 9" squares in standard and ⅛" thicknesses. Kentile, Inc., 58 2 Ave., Brooklyn, N. Y.

p/a manufacturers' literature

★ *Editors' Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

air and temperature control

1-9. Draftless Aspirating Air Diffusers (Selection Manual 45), 64-p. revised edition of a manual for the selection of air diffusers in air-conditioning systems. Technical data is supplied on how proper locations and correct number of required units are determined. Performance data charts are included with the description of each type of air diffuser along with dimension data and photos of the unit. Information on installation, photos of typical installations, price lists of diffusers and accessories. Anemostat Corp. of America, 10 E 39 St., New York 16, N. Y.

1-10. Industrial Controls (F-3941-2), 32-p. catalog describing control mechanisms which include thermostats, proportioning pressure switch, humidity controls, motor-operated valves, temperature regulators, control motors, relays, electrical accessories, and heating and air conditioning controls. Sections on control terminology, types of valve bodies, and valve capacities. Photos and charts. Barber-Colman Co., 150 Loomis, Rockford, Ill.

1-11. Char-Gale 1953 General Catalog, 30-p. booklet giving information on equipment for heating systems: aluminum package fittings, joist panning, galvanized perimeter fittings, registers, ceiling diffuser, vents, humidifiers. Sizes, weights, net prices. Charts, drawings, and photos. Char-Gale Mfg. Co., Minneapolis 6, Minn.

★ **1-12. A Simplified Design Procedure for Residential Panel Heating,** 26-p. brochure setting forth the procedure for determining the size of heating panels and the water temperature necessary to heat any room in a residence of normal construction. Heat-loss calculations have been eliminated. Tables on design factors for insulated and uninsulated structures, required panel areas, and approximate input to room in Btu/hr. Also installation details of piping for typical ceiling panels. Revere Copper and Brass Inc., 230 Park Ave., New York 17, N. Y.

1-13. Servel Air Conditioning (3ACP-79-300), 12-p. booklet listing a line of year-round air conditioners, air cooling units, evaporative water coolers, and a 25-ton water chiller. Photos and dimensional drawings of various units, specifications of air conditioning units. Air Conditioning Div., Servel, Inc., Evansville 20, Ind.

1-14. Equipment for Buildings and Institutions (WP-1099-B27M), 20-p. revised catalog of air conditioning and refrigeration units for commercial use. Sizes, dimensions, capacities, ratings, and features of units. Also oil, gas, and dual-fuel engines; deaerators and deaerating heaters; water conditioners; steam turbines and turbine generators; liquid meters; centrifugal pumps; and others. Worthington Corp., Harrison, N. J.

construction

2-16. Plastic Tubing for Prestressed Concrete, 4-p. folder giving specifications and other data on bond preventing split tubing used over wire rope or rods in post-tensioned concrete beams. Illustrations of method of applying the tubing; list of sizes. Anchor Plastics Co., Inc., 36-36 36 St., Long Island City 6, N. Y.

2-17. Alsynite for Modern Design, A.I.A. 26-A-9 (952), 4-p. booklet describing a translucent glass-fiber building panel of lightweight, shatterproof construction. Color photos of corrugated and flat panels serving various uses such as luminous ceilings, sidewalls, and partitions in residential, commercial, and industrial buildings. Data on standard sizes, colors, light transmission and diffusion, and fire resistance. Alsynite Co. of America, San Diego 9, Calif.

Two folders outlining basic information on the construction of stages which is given by firm's engineering service, including loads and moments, arrangement of mechanical equipment, flexibility of arrangement, roof heights, and specifications. Also information on curtain tracks and electrically-operated draw curtain controls. Photos of several stages. J. R. Clancy, Inc., 1020 W. Belden Ave., Syracuse 4, N. Y.

2-18. How to Build a Modern Stage, A.I.A. 35-A-1

2-19. Key to a Good Stage, A.I.A. 35-A

2-20. Flexa Steel Channels and Fittings (153), 40-p. engineering catalog. Dimensional drawings and engineering data for standard steel channels, fittings, fixture hanging components, beam clamps, brackets, pipe clamps, porcelain insulators, and concrete inserts. Channels and fittings furnished in machinery gray enamel, or galvanized finish if desired. Flexa Steel Products, Inc., 1348-50 W. Washington Blvd., Chicago 7, Ill.

2-21. Lightsteel Structural Sections, A.I.A. 13-G (SS-1), 12-p. booklet describing structural sections with range of studs, joists, and accessories for the erection of steel frameworks; suitable for single and multiple residences, schools, industrial and commercial structures, and load-bearing partitions and exterior curtain-wall framing in multiple story buildings. Drawings of typical residential and commercial framing, physical and structural properties for studs and joists, engineering data, details. Penn Metal Co., Inc., 205 E. 42 St., New York 17, N. Y.

2-22. Glass Blocks, A.I.A. 10-F (G81700), 40-p. booklet giving advantages of glass blocks and their applications in commercial, industrial, and public buildings. Performance data, available sizes and shapes, modular installation details, closed specifications. 18 pages of photos showing installations. Pittsburgh Corning Corp., 307 4 Ave., Pittsburgh 22, Pa.

doors and windows

3-16. Dor-O-Matic Invisable Dor-Man (I-52-12), 4-p. bulletin describing an automatic, concealed, and noiseless door control which can be applied to any standard stock door (glass, wood, or metal) without alterations. Economy and safety features, information on models, specifications. Drawings, photos. Dor-O-Matic Div. of Republic Industries, Inc., 4446 N. Knox Ave., Chicago 30, Ill.

3-17. Sun-Sash Air-Controlled Louvered Windows, 4-p. leaflet on louver-type window for residential, industrial, and commercial use. Sizes, installation details, specifications, and ordering instructions. Photos, drawings, and charts. Sun-Sash Co., 38 Park Row, New York 38, N. Y.

3-18. Aluminum and Steel Windows for the Home, 12-p. catalog describing line of aluminum and steel residential windows including double-hung, casement, and basement and utility types. Construction and installation details and standard dimensions. Also information on screens and storm sash. J. S. Thorn Co., 2009 W. Allegheny Ave., Philadelphia 32, Pa.

3-19. Presenting Truscon Aluminum Casements, A.I.A. 16-E (A-645), 4-p. booklet on residential casement windows. Information given on modular sizes, construction, hardware, screens, and storm sash. Drawings illustrate types, sizes, sections. Specifications, photos. Truscon Steel Div., Republic Steel Corp., 1315 Albert St., Youngstown, Ohio.

electrical equipment, lighting

4-10. Incandescent Lighting Folio, A.I.A. 31-F-2 (1-53), 16-p. brochure illustrating and describing over 30 incandescent lighting fixtures for commercial and institutional interiors including bell, reflector, and glass-enclosed type wall and ceiling brackets, new ventilated hinged drum corridor unit, ceiling bowl and cornice units, aluminum wall-mounting hospital bed light, and a variety of ceiling and pendant mounting molded glass bowl fixtures. Photos, drawings, specifications. Gruber Bros., Inc., 125 S. 1 St., Brooklyn 11, N. Y.

Two bulletins giving specifications and other information on two types of master clock and program systems; one, a synchronous, dual-motor, 3-wire manual reset, the other, an electronic automatic reset. Typical wiring diagrams of each, descriptions of program machines and suggested mounting instructions, electric secondaries, and elapsed

time indicators and controls, audible signals. Drawings and photos. Simplex Time Recorder Co., Gardner, Mass.:

4-11. Three-Wire Manual Reset Master System (179A)

4-12. Electronic Master System (175A)

★ **4-13. Trumbull Electric General Catalog 1953,** 138-p. catalog of electric equipment including safety switches, circuit breakers, service entrance equipment, motor control equipment, open knife switches, lugs and connectors, panelboards, switchboards, and distribution systems. Detailed information on each unit with photos. General application data and numerical index with over-all dimensions. Trumbull Electric Dept. of General Electric Co., Plainville, Conn.

4-14. Planning the Modern Home Electrically (B-5853), 20-p. manual giving instructions on planning kitchens and laundries. Also design information on such home lighting developments as cove, cornice, valance, recess, pinhole spot, and automatic lighting for closets. Data on planning an adequate wiring system for residences: where to locate outlets, how many and what kind of circuits to provide for, and how to plan a service entrance for future as well as immediate needs. Photos, drawings, floor plan. Westinghouse Electric Corp., Box 868, Pittsburgh 30, Pa.

finishers and protectors

5-4. Brisk Catalog 1953, 4-p. folder describing preformed waterproofing units built in exterior masonry walls providing a continuous membrane barrier. Advantages, typical installation for 12" brick wall, typical details and sections. List of representative architects using the system. Brisk Waterproofing Co., Inc., 103 Park Ave., New York 17, New York.

5-5. Finishing Northern Hard Maple Flooring (31580), 8-p. folder discussing characteristics of northern hard maple flooring, prime requirements of a good service finish, special finishes for gymnasium floors, sanding suggestions, and information on the care of flooring. Photos. Maple Flooring Manufacturers Assn., 35 E. Wacker Dr., Chicago 1, Ill.

insulation (thermal, acoustic)

6-6. How to Select an Acoustical Material, A.I.A. 39-B (AD-S-53-B), 18-p. brochure giving information on the selection of acoustical materials and acoustical treatments. Also detailed descriptions of line of products: acoustical tile, metal pan units, asbestos board, and hardboard. Installation methods, mechanical suspension. Armstrong Cork Co., Lancaster, Pa.

6-7. Celotex Acoustical Materials, A.I.A. 39-B (5033C), 8-p. folder describing line of sound-conditioning products: cane-fiber tile, mineral tile, steel-faced units, panel and asbestos board, and material for lining ventilating and air-conditioning ducts. Information on suspension system, construction details on materials, application selection chart with sound absorption coefficients. The Celotex Corp., 120 S. LaSalle St., Chicago 3, Ill.

sanitation, water supply, plumbing

7-3. Plumbing Fixtures for Hospital Planning (326), 62-p. catalog showing various types of plumbing fixtures and fittings used in hospitals. First section has floor plans of hospital department with fixtures shown. Second section gives detailed descriptions of the units. Photos and drawings. American Radiator & Standard Sanitary Corp., Bessemer Bldg., Pittsburgh 30, Pa.

specialized equipment

8-7. Heavy Wire Mesh Products, Collapsible Folding Gates (51), 16-p. catalog showing woven wire partitions and window guards, roller bearing and in-wall folding gates. Specifications, drawings, typical grouping of partition sections, construction data, dimensions. Acorn Wire and Iron Works, Chicago 21, Ill.

Two folders describing school intercom system and central-control system for general administrative and industrial use. Information on basic units and operating features. Three basic-wiring plans and optional accessories. Executone Inc., 415 Lexington Ave., New York 17, N. Y.

8-8. Executone School Intercom System (327)

8-9. Executone Central Control System (278A)

8-10. Chalkboard Frames of Aluminum, 16-p. current catalog of extruded aluminum frames for chalkboards and corkboards. Also plastic and composition chalkboards and corkboards. Recommended specifications, full-size details and typical elevations, photos of installations. Gotham Chalkboard & Trim Co., Inc., 246-252 E. 125 St., New York 35, N. Y.

8-11. Troy Laundry Machinery (YG-8-52), 24-p. catalog covering line of laundry equipment including washers, extractors, tumblers, presses, flatwork ironers, flatwork folders, and accessory equipment. Illustrations, specifications, dimensions, and capacities of equipment. Troy Laundry Machinery Div., American Machine and Metals, Inc., 544 12 Ave., East Moline, Ill.

surfacing materials

9-6. Sloane Floors and Walls, 124-p. hardbound catalog. Color charts of tile and linoleum floorings, vinyl-plastic floor covering and countertop, rugs, tile wall covering, and installation accessories. Table of gages and shipping weights, price list. Request should be on letterhead stationery. Sloane-Blabon Corp., 295 5 Ave., New York 16, N. Y.

(To obtain literature, coupon must be used by 7/1/53.)

(We request students to send their inquiries directly to the manufacturers.)

PROGRESSIVE ARCHITECTURE, 330 West 42nd Street, New York 36, N. Y.
I should like a copy of each piece of Manufacturers' Literature circled below.

1-9	1-10	1-11	1-12	1-13	1-14	2-16	2-17
2-18	2-19	2-20	2-21	2-22	3-16	3-17	3-18
3-19	4-10	4-11	4-12	4-13	4-14	5-4	5-5
6-6	6-7	7-3	8-7	8-8	8-9	8-10	8-11
9-6							

Name _____

Position _____

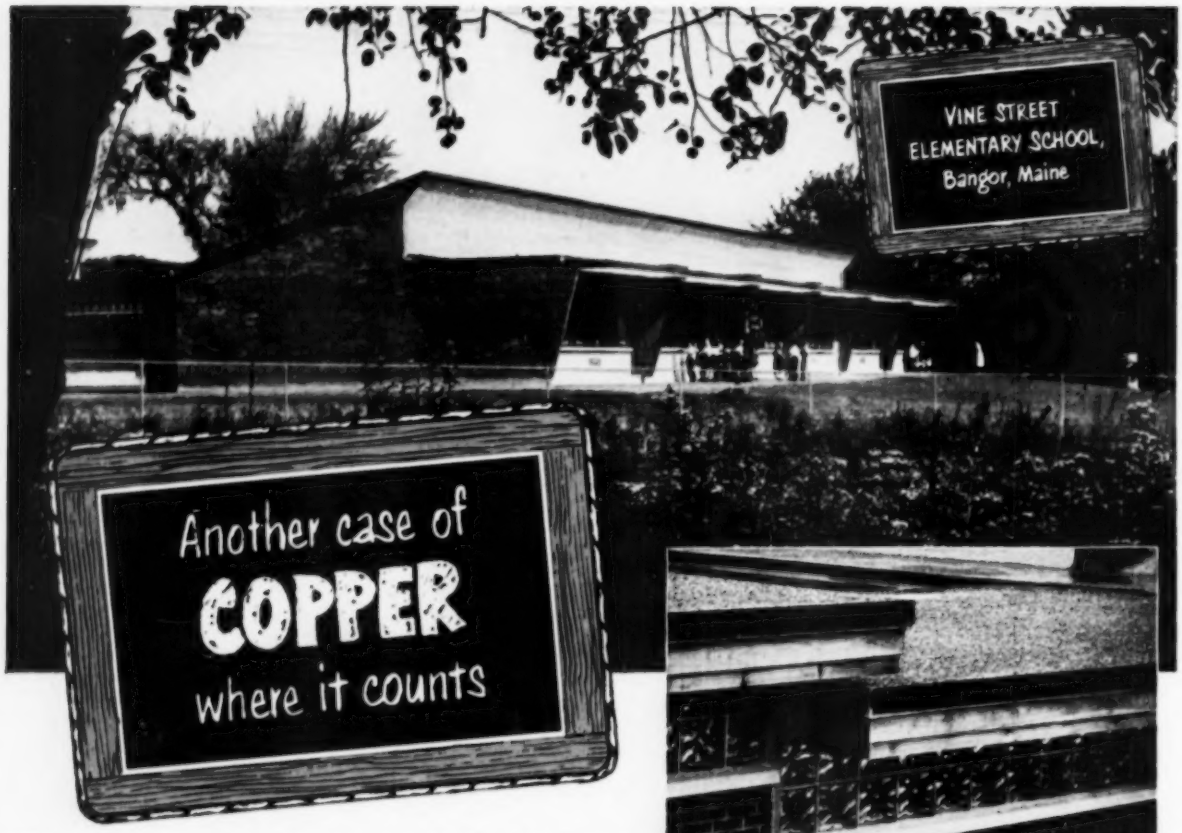
Firm _____

Mailing Address _____ ☐ *Home* ☐ *Business*

City _____ *State* _____

please print

5/53



The Vine Street Elementary School, designed by Eaton W. Tarbell & Associates was one of the five top winners in "The School Executive's" recent National Competition for Better School Design. It is an excellent example of the use of a limited amount of Copper where it counts most.

The Vine Street School, which has its own heating plant and covers about 10 times the area shown in the above photograph, used 5,270 lbs. of 16 oz. non-rusting Revere Copper for flashing and fascia gravel stops (see detailed photos at right). Said Mr. Tarbell, "Of all the materials available for the purpose, to my mind, copper was the one best for the job . . . both from a design as well as a utilitarian standpoint."

In addition to the Revere Sheet Copper the School used 2,500 ft. of Revere Copper Water Tube in sizes ranging from ½" to 3" for hot and cold water lines.

Architects like copper because this "ageless" metal has proved its enduring qualities through the centuries. It is non-rusting, lends itself to any kind of design treatment, builds prestige and protects reputations. Sheet metal contractors prefer it because it is readily worked and soldered; easy to handle.

Now, with restrictions eased, and permissible quantities without allotments greatly increased, there isn't any reason why your next job can't have the many benefits of Revere Copper. See the Revere Distributor nearest you about Revere Sheet, Strip or Roll Copper for flashing. Particularly ask him about the money-saving advantages of Revere Keystone Thru-Wall Flashing.* And, if you have technical problems, he will put you in touch with Revere's Technical Advisory Service.

* PATENTED

REVERE

COPPER AND BRASS INCORPORATED

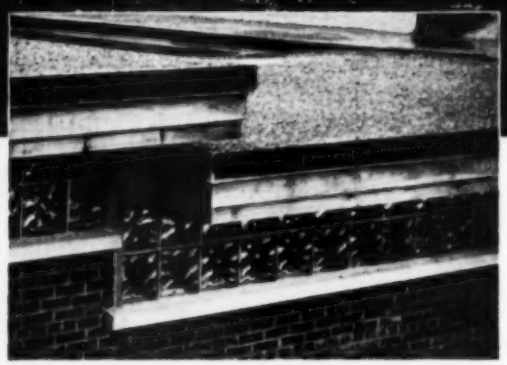
Founded by Paul Revere in 1801

230 Park Avenue, New York 17, N. Y.

• • •

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.— Sales Offices in Principal Cities, Distributors Everywhere

SEE REVERE'S "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY



USING COPPER for fascia gravel stops made soldering a quick, certain operation. Note flange at base of strip for water run-off. Installation was made by the Bangor Roofing & Sheet Metal Company. Architects—Eaton W. Tarbell & Associates . . . both of Bangor, Maine.

THIS NON-RUSTING 16 oz. Revere Copper Flashing shown at base of picture (right) will be around for a good many years and require little if any maintenance while it seals the weather out of the Vine Street Elementary School. Another section of Revere Copper fascia gravel stop may be noted at top of picture.

by Ben John Small

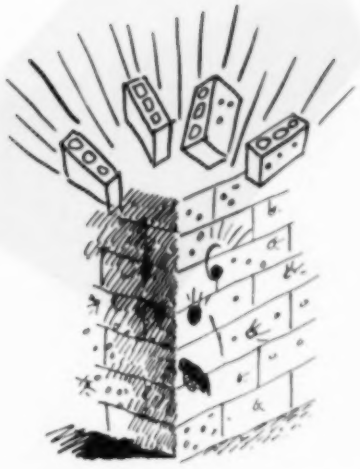
spec small talk

pop-outs

Did you ever hear of an unplastered cinder-concrete-block partition blowing its top in the form of pop-outs? This is a kind of psychiatric condition derived from unstable cinders. Back in 1948 the office did an alteration to a school wherein three stairs leading to the basement were enclosed with painted cinder-concrete-block partitions. A few months ago our attention was directed to the fact that these partitions appeared heavily pock-marked in terms of a liberal quantity of—how shall I put it—inverted cones of varying sizes. These cones, which pulverized to the touch, had bases varying in diameter from $\frac{3}{4}$" to approximately $2\frac{1}{2}$", a depth from $\frac{1}{4}$" to $\frac{3}{4}$" and projected, base first, from the partition face about $\frac{3}{8}$ of an inch. After fussing with several block manufacturers, the Portland Cement Association, the American Concrete Institute and even an entomologist (to rule out insects) the cause was ascribed to a peculiar form of hard burned lime in the cinders. It seems that free lime may be formed in cinders by the decomposition at high temperatures of calcite (calcium carbonate), gypsum, or anhydrite (calcium sulphate), any of which may be harbored in some types of coal. At high temperatures these impurities may produce small, hard-burned particles which react differently from ordinary lime. Now, here is the trouble maker. These particles hydrate so slowly that it is possible for them to pass through the mixer and become embedded in a block before hydration has proceeded to an appreciable extent. When it does take place, it is accompanied by a considerable increase in volume, developing high pressures in a restricted space and often resulting in a pop-out. Personally, I am off cinders as an aggregate in blocks where they are to be exposed. Pop-outs can also be caused in rare instances by free magnesia and calcium sulphate. Iron also causes pop-outs and is usually accompanied by some staining. Now that we are all so fully informed, who is responsible for rectifying this 5-year-old situation—the owner, architect, contractor? Does the statute of limitations apply here? The A.I.A. General Conditions were employed. No bond of any kind was required. Care to tell me of any similar experiences?

floor show

I wonder how many architects who visited the 20th National Power Show in New York last December got the same impression I did—that it had a good floor show. I did my utmost to sustain interest in steam generators, valves, packings, insulation, belting, dust collection units, gages, pumps, compressors, and power transmission equipment but, alas, my eyes were drawn consistently to an amazing variety of floor coverings in the exhibitors' booths. I found



myself studying the floor coverings and not the exhibits! There were rubber and vinyl tiles, large and small, smooth and corrugated, solid and perforated, square edged and interlocking, monotones and jaspés, thick and thin, laid wet and dry. So much for the floor show. As for the furniture, well, now I know where all the Eames chairs go when they die.

100:2

My curiosity was stimulated by a rather uncommon specification description used by the Metal Lath Manufacturers Association in describing fireproofing recommendations. In a table of construction assemblies and their fire ratings it was stated that "1" gypsum-vermiculite or perlite plaster 100:2, 100:3 would be acceptable for a 4-hour fire resistance rating of beams, girders, or trusses. I could come to the point and explain briefly the meaning of "100:2" which puzzled me. (Since I am paid by the word I would rather have you wade through the following quote from the Association.)

"Mined like coal, gypsum rock is crystalline calcium sulphate. When ground into powder and then heated or cooked, gypsum releases a great part of its water of crystallization. By adding water to this calcined gypsum plaster, the workman on the job creates a plastic material that is easily applied to walls and ceilings. Gradually the gypsum recombines with the water to form crystals and reverts to its original rock-like state.

"This unusual ability of gypsum to release water when heated to high temperatures makes it an outstanding fireproofing material. In slowly going from 'dry' water to steam, water of crystallization actually absorbs heat from the flames. Meanwhile, the opposite side of the gypsum remains relatively cool until all the water is gone.

"Therefore, the more gypsum in plaster, the better 'sprinkler system' that is available to combat a fire. It is important in all membrane fireproofing that the plaster mix and thickness be specified.

"When sand aggregate is used, plaster is proportioned by weight. The accepted practice when light-weight aggregates are used is to specify the amount of gypsum by weight and the aggregate by volume. A mix of 100:2 means that 100 lbs. of gypsum, or one sack, is mixed with 2 cu. ft. of aggregate. Light-weight aggregates usually are packed four cubic feet to a sack.

"Neat wood-fibered gypsum plaster is a mill prepared base coat plaster containing a wood fiber aggregate and requiring the addition of water only on the job. It is from 50 to 100 percent more effective as a fireproofing material than standard mixes of gypsum sanded plaster."

Pretty neat, gypsum that is, eh?

union hassle

In the design of a large office building the architect located window heads quite close to the suspended ceiling line. He had a head pocket planned to conceal the Venetian-blind bundle. There exists a simple gripping device that looks in cross section like the familiar dovetail slot. This grip is continuous, of 18-gage steel, and wired customarily to the suspended ceiling runners. The Venetian-blind head box is then installed by clipping it to the grip. As originally designed, the head-pocket lining was to be plastered in its entirety, in which case the lather would have installed the grip. To minimize an awkward plastering problem in the pocket it was decided to extend one leg of the grip so that it would connect with the window head. This change in detail sparked a jurisdictional hassle among the lathers, carpenters, and sheet metal trades. The lathers claimed the installation of the extended grip because of its tie up with the lath; the carpenters because it was lighter than 18-gage metal and supported the Venetian blinds which they usually install and the sheet-metal workers because it is lighter than 10 gage. Had the upholsterers heard of it they too would have claimed something or other because traditionally Venetian-blind installation is theirs. In another project the grip, this time flush with the ceiling but also connected with the window head, was installed without a murmur by the ornamental-iron workers who installed the windows and claimed it because the grip became window trim!

Wm. H. Carr, Architect
Laing-Garrett Co.,
Formica Fabricator, Tucson, Ariz.

FORMICA Helps a House Become a Home

The heart-warming colors and smooth pleasant feel of Formica lead to love at first sight for home buying prospects.

But equally important, Formica on kitchen and bathroom surfaces is easy to live with, easy to clean, and a joy to own far into the future. Its resistance to boiling water, alcohol, acids and alkalies, and all-round hard use is so well known to homemakers that the name Formica has a sales magic all its own.

Look in the classified phone book under "Plastics" for a Formica fabricator who will do a custom job to your specification. Many nationally sold kitchen cabinets are available with Formica tops. Always ask for Formica by name and look for this assurance directly on the product.

This mark certifies genuine

Beauty Bonded
FORMICA
Pays in Performance

Guaranteed by Good Housekeeping

THE FORMICA COMPANY, 4633 Spring Grove Ave., Cincinnati 32, Ohio
In Canada: Arnold Bonfield & Co., Ltd., Oakville, Ontario

airport waiting areas

In evaluating airport waiting areas, it is first necessary to consider their uses. The overwhelming thought comes to mind that the passengers are completely at the mercy of the space. People using the area may have appeared well ahead of flight time to be checked in, their flight may have been delayed, or they may be waiting between connecting flights without enough time to leave the airport, get into the city and back. Ideally, the waiting area should be equally efficient, attractive, and comfortable. Efficiency is at tops, of course, when ticketing and all administrative functions are divorced from the waiting areas. Space does not always permit the completely efficient operation, but there is absolutely no excuse for unattractiveness. In many cases, designers have taken advantage of the beauty which is at hand—the magnificence of planes in flight—and have incorporated large areas of glass, either in the waiting room or separate observation lounges to permit a view of the field's activities. This is certainly a good time passer for waiters. Concessions, such as magazine stands, luncheon counters, and many others are good business-wise and contribute to passenger convenience.

But passenger comfort is the greatest of desirable attributes, and attention to this all-encompassing feature is sorely needed in interior design. True, there are airports which have considered comfort carefully, but all too many have let it go by the board. For instance, just basically, seating is so often too uncomfortable for long periods of waiting. Arrangement of seating in more of a sort of informal living room arrangement is more desirable than the regimented rows of hard benches. How nice it would be if there were some place for passengers to rest while waiting for flights—some airports already have connecting hotels on the field. All of the desirable qualities of a waiting area depend on budget and space, but if the designer approaches his problem with the passenger's comfort in mind, he is certain to achieve a much more successful end product than the one who merely provides the absolute essentials without taking the passenger into consideration.

In the following section are three waiting areas that are fine examples of efficiency, attractiveness, and comfort.

p/a interior design data

airport waiting areas

location	Kanawha County Airport, Charleston, West Virginia
architects	Tucker & Silling
interior designer	Eugene Tarnawa

terrazzo

marble

Traffic flow has been very carefully considered in this terminal building. Eight minutes from the down-town section, the magnificent mountain view attracts sightseers as well as the passengers. The building is so arranged that the ticketing is separate from the waiting area, sightseers have separate decks and cantilevered terraces, and there is no cross-traffic between incoming and outgoing passengers. The waiting room has hickory brown walls, with photomurals in color, orange and white candy striped upholstery on the benches, black terrazzo flooring and a marble wainscot.

The airport is visible from the waiting room and dining room—an inspiring sight of runways on the leveled mountain tops.

Photos: Benson Studio

data

doors and windows

Doors: aluminum frame/ glass/ Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa.
Windows: Adams Westlake Co., Safford St., Elkhart, Indiana/ glass/ Pittsburgh Plate Glass Co.

furniture and furnishings

Reading-study Table: custom-built/ designed and executed by Knoll Planning Unit, Knoll Associates, Inc., 575 Madison Avenue, New York, N. Y.

Chairs and sofas: #21, #66OU, #35, #37 sofa/ Saran upholstery/ Knoll Associates, Inc., 575 Madison Avenue, New York, N. Y.

Fishnet: Knoll Associates Fabric Division.

lighting

Lighting Fixtures: Curtis Lighting, Inc., 6135 W. 65 St., Chicago, Ill./ Sylvania Electric Products Co., Inc., 1740 Broadway, New York, N. Y.

flooring

Asphalt Tile: Thomas Moulding Floor Mfg. Co., 165 W. Wacker Dr., Chicago, Ill.

Settees: #4022 SU27 BU6 and #6034 SU27 BU6/ bent-ply/ natural maple finish/ upholstery: Naugahyde, heavyweight, Royal Antique, #3305 Yellow and Boltaflex 20 ga. #2563 SC Sherwood Green/ Thonet Bros.

Tables: #94208/ bent-ply/ natural-finish maple top, edged with gray Formica/ 30" x 30" x 22"/ 18" x 36" x 16"/ Thonet Bros.

p/a interior design data

airport waiting areas

location	Airport Terminal Building, Monterey Peninsula, California
architect	Robert R. Jones
interior designer	Walter Brude
furnishings consultant	Verna Dunlevy

tempered-glass doors

rubber-tile flooring

Uncovered building structure was used here as part of the interior design. Where walls or ceiling flow from the exterior, they carry the same colors on the interior—French gray and light lemon yellow. Deep bright blue is used on the high ceiling, and bright blue-green on the drop ceiling over the ticket counter, adding drama to its architectural form. The waiting area was designed to achieve an "open pavilion" feeling, enabling visitors to observe the activities of the airport from wherever they might be sitting. The view opposite the airfield is composed of gardens. Furnishings were chosen for their practicability to public use and are arranged in an informal living room type of seating rather than the usual regimented rows of seating.

Photos: Morley Baer

data

lighting

Ceiling: #1154/ spun aluminum/ 6-⅝" diameter/ recessed 2"/ C. W. Cole Co., Inc., Los Angeles, Calif.

Ticket Counter: custom fixture/ continuous painted metal housing/ double row of 200 M.A. Slimline/ K. Von Hacht, 90 Tehema St., San Francisco, Calif.

walls, ceiling, flooring

Walls: ¼" polished plate glass/ Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa./ local native stone, "Carmel", lt. beige with rust and brown veins/ natural finish redwood.

Partitions: (behind ticket counter) deep grille, alternating "T"s of redwood.

Ceiling: acoustic plaster.

Flooring: "Amtico"/ gray marbleized rubber tile/ American Tile & Rubber Co., 3 Assunpink St., Trenton, N. J.

doors and windows

Doors: "Herculite"/ Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa.

Windows: Fixed aluminum sash.

furniture and furnishings

Upholstered Benches: designed by Roger King/ upholstery: orange and white candy stripe "Saran" woven plastic/ Knoll Associates, Inc., 575 Madison Ave., New York, N. Y.

lighting

Ceiling: #2240 "Punchy"/ Curtis Lighting Co., Inc., 6135 W. 65 St., Chicago, Ill.

Indirect Cove Lighting: 4 ft. sections, continuous wiring channels; double rows of 40-watt fluorescent lamps.

murals

Photomurals: color photographs on linen applied to plaster/ Drix Duryea, Inc., 221 E. 38 St., New York, N. Y.

Ceiling Mural: oil painted on plaster/ Robert Lepper, Pittsburgh, Pa.

redwood see-through grille

airport waiting areas

plastic upholstery

data

walls, ceiling, flooring

Walls: plaster/ painted/ "Nu-Hue" deep tones/ The Martin-Senour Company, 9 East 56 St., New York 22, N. Y.

Wainscot: "Granox Royal Rouge Fleuri"/ Gray Knox Marble Co., Knoxville, Tenn.

Ceiling: acoustic plaster.

cabinet work

Showcases, Natural Finish Redwood Magazine Rack, Shelving, Red Birch Weldwood Ticket Counter with Black Formica Bulkhead: custom designed/ executed by Millwork Contractor.

doors and windows

Doors: ¼" Herculite tempered glass Type P/ Pittsburgh Plate Glass Co., 635 Duquesne Way, Pittsburgh 22, Pa.

Windows: custom sash, 1-7/16" "Griston" intermediate horizontally pivoted/ fired sash in steel frame/ Michel & Pfeffer Iron Works, Inc., South Linden & Tanforan Ave., South San Francisco, Calif. glass; ⅛" polished plate/ Pittsburgh Plate Glass Co.

furniture and furnishings

Sectional Units: #6002 SU27 BU6 Center and #4002 SU27 BU 6 Left and Right/ bent-ply, natural maple finish/ upholstered in Kalistron #129 Chartreuse, Boltaflex 20 ga. 2563 SC Sherwood Green, Naugahyde, heavyweight Royal Antique, #3307 Vermillion.

Arm Chairs: #4002 SU27 BU6 and #3007 SU27 BU6/ bent-ply/ natural maple finish/ upholstery; Kalistron #129 Chartreuse/ Thonet Bros., 1 Park Ave., New York, N. Y.

asphalt tile flooring

Entirely divorced from ticketing and official circulation, this waiting area is simple yet pleasant in execution. Ideally, it invites relaxation and by-passes all confusion. Lunch rooms, restaurant, and shopping sections adjacent contribute to the pleasant passing of time for waiting passengers. No attempt has been made to have draperies, except for the fishnet, because the important feature is the airport view. Carpeting helps to avoid the look of "public waiting area."

Photos: Hedrich-Blessing Studio

fishnet

location	St. Joseph County Airport, South Bend, Indiana
architect	Roy A. Worden
associate	Vincent Fagan
consultant	Frank Montana

Sure you can match grains all around the room! Use FLEXWOOD

Flexwood is made by slicing the finest, rarest woods so thin that there are more pieces out of each section of log. Therefore you can match grains over a larger area. And because it *is* flexible, you can wrap Flexwood around even the thinnest columns or sharpest curved walls—on any firm, dry backing—to create superb, original decorative effects. Flexwood meets any fire code requirement—can be installed over a week-end if necessary! Over 25,000,000 feet have been sold. Learn *all* of Flexwood's remarkable advantages by mailing the coupon now.

Flexwood is manufactured and marketed jointly by United States Plywood Corporation and The Mengel Company.

FLEXWOOD
Choice wood in flexible sheets
Reg. U. S. Pat. Off.

United States Plywood Corporation , **Dept. FW-47**
55 West 44th Street, New York 36, N. Y.
In Canada: Paul Collet & Co., Ltd., Montreal

Please send Flexwood sample and full-color fact book.

NAME_____

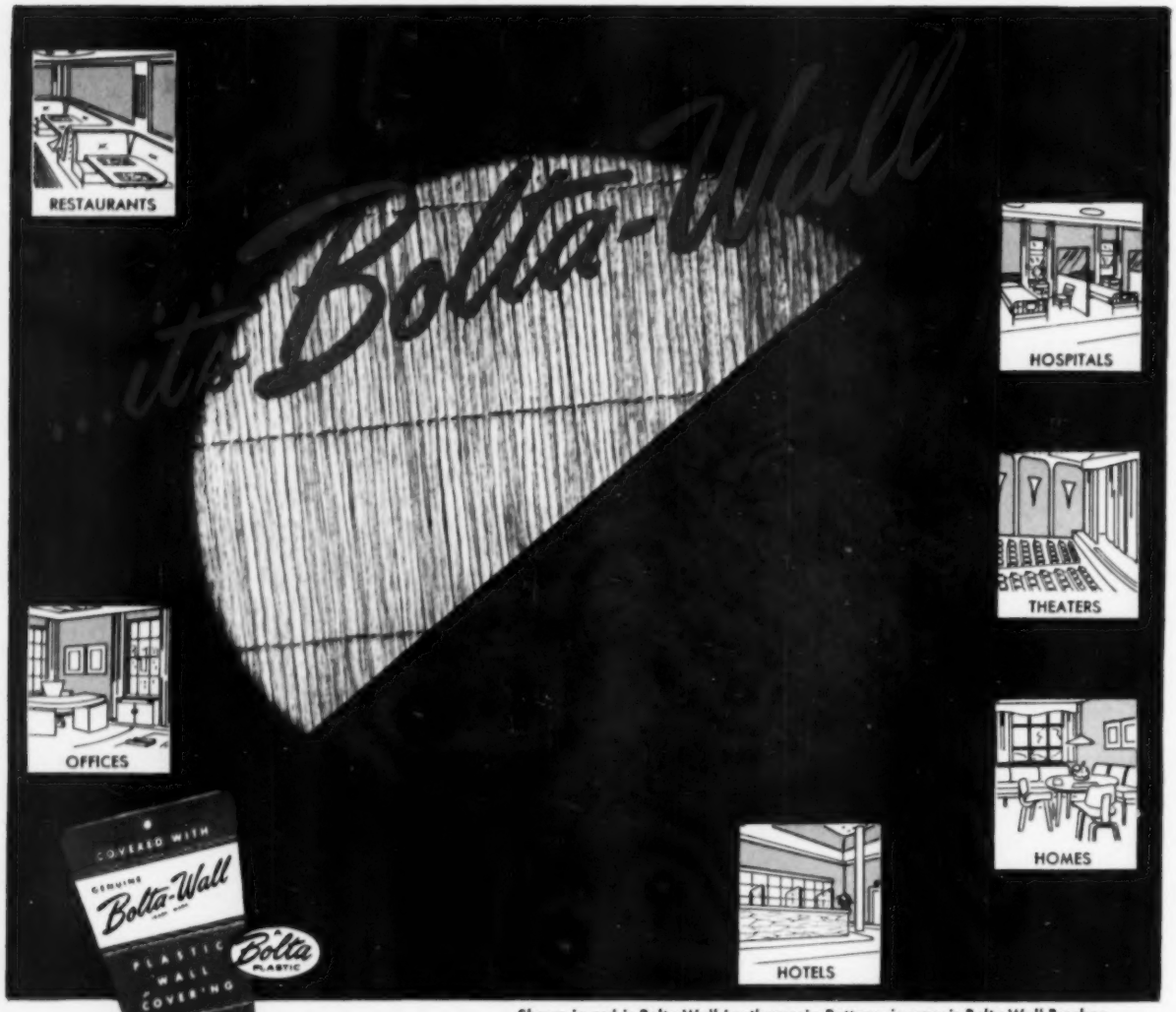
ADDRESS_____

CITY_____ STATE_____

Molded-Plywood Chair: #1308, #1318/hard, clear-maple veneers/ available with seats and backs upholstered or combinations of upholstered seats with wood back/ **retails:** $23.50 to $45/ designed by Joe Adkinson/ **Thonet Industries, Inc., One Park Ave., New York, N. Y.**

Hospital Furniture: #155 Group/ steel/ two-tone "Dulux" enamel finish in pastel colors or wood grain finish/ "Pictura"/ no handles or pulls to catch clothing/ **Simmons Company, Contract Division, Merchandise Mart, Chicago, Ill.**

Classroom Chair: body-contoured seat and back/ basic chair easily convertible to tablet armchair, chair-desk, a lounge chair/ stackable/ **Brunswick-Balke-Callender Co., 623 S. Wabash St., Chicago, Ill.**



Shown in red is Bolta-Wall Leathergrain Pattern; in grey is Bolta-Wall Bamboo.

6 POINTS OF SUPERIORITY

1. Easy to cement to most interior wall surfaces.
2. Dimensionally stable — no seam shrinkage.
3. Superior hiding power — "cushion backing" helps absorb surface roughness.
4. Sturdy, not a coated fabric or wallpaper — cuts cleanly yet will not crack or chip.
5. Beautiful in distinctive Leathergrain and 3-dimensional Bamboo — ideal for all interiors.
6. Easy to clean, Bolta-Wall resists greases, oils, alcohols, detergents; is highly flame resistant.

Bolta-Wall is Guaranteed

Here's the newest and by far the finest plastic wall covering you've ever seen. Check its Six Points of Superiority. You'll specify it wherever permanent beauty, durability and washability are desired.

Bolta-Wall is the result of years of development work. It is a heavy-weight, laminated, vinyl plastic wall covering that is dimensionally stable, washable and easy to install. Laboratory tests have proven it to be outstandingly resistant to fading, scratching, scuffing and snagging.

Contact your distributor NOW . . . or send in the coupon below.

BOLTA, Box 606, Lawrence, Massachusetts
Please send me samples and architectural specifications on Bolta-Wall

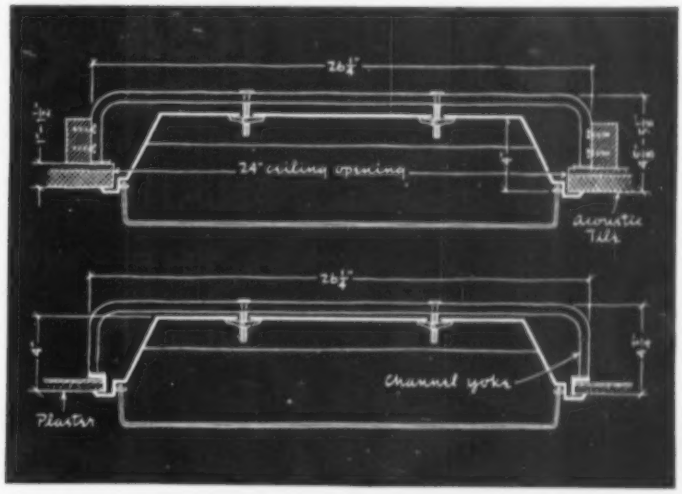
Name.....Title.....

Company.....

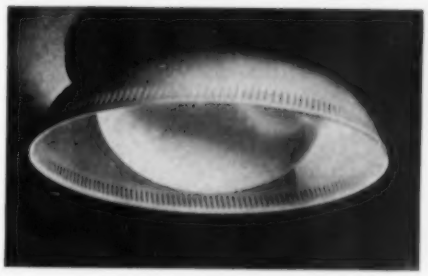
Address.....

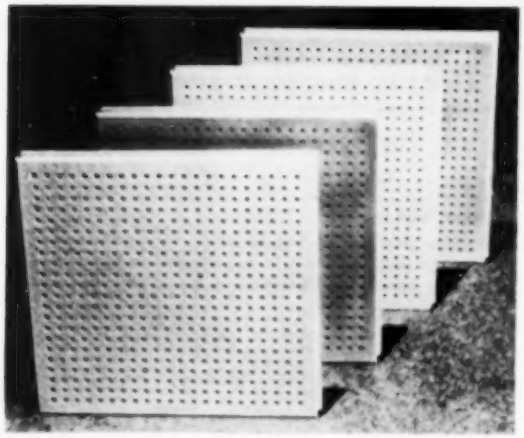
City.....Zone.....State.....

Ceiling Fixture: #11526/ "Optiplex"/ Plexiglas diffuser/ recessed depth, 4", exposed depth, 1-11/16"/ 24" long, 23-9/16" wide/ baked white-enamel finish/ snaps in and out of position with finger-tip pressure/ **retail:** $93/ **Lightolier, 11 E. 36 St., New York, N. Y.**

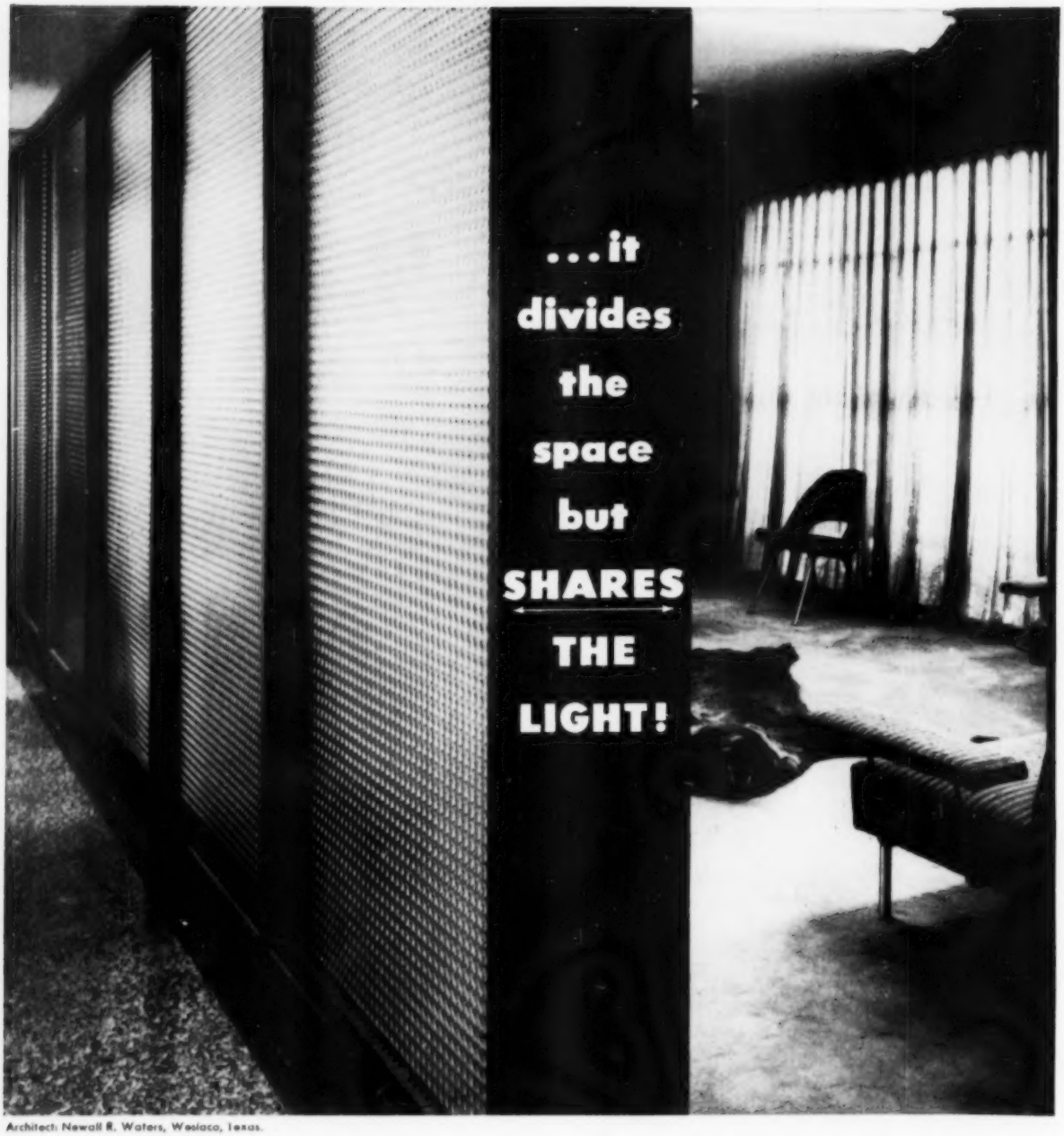


Acoustical Tile: "Kolor-Fast Variegated"/ available in four blending tawny shades of tan plus white "Sta-Lite"/ applicable with patented Nu-Wood clips, Adhestik, nails, or screws/ tongue and groove edges/ 12" x 12", ½" thick/ **Wood Conversion Company, First National Bank Building, St. Paul, Minn.**





Lighting Fixtures: #2088/ glass ceiling fixture with white aluminum shade/ 18" diameter, 4½" high/ **retail:** $42/ #9464/ brass wall bracket/ 8" diameter, 5½" high/ **retail:** $59/ both designed by Paavo Tynell/ **Finland House, 41 E. 50 St., New York 17, N. Y.**



Architect: Newell R. Waters, Weslaco, Texas.

When you brighten interiors with borrowed light, why not get sparkling beauty thrown in for good measure? This partition of Blue Ridge Glass—Doublex pattern—shows how effectively space can be isolated for privacy with translucent walls of glass.

Blue Ridge *Patterned Glass* gives your imagination plenty of room to work in. There are linear, checkered and over-all patterns, in plain, textured and Satinol* finishes. The neutral color of this glass always blends effectively with whatever color schemes are used from time to time in the building.

Your L·O·F Glass Distributor or Dealer can show you samples. He's listed in the yellow pages of phone directories in many principal cities. Mail the coupon for our two helpful idea books on attractive interiors.

*®

BLUE RIDGE

Patterned GLASS

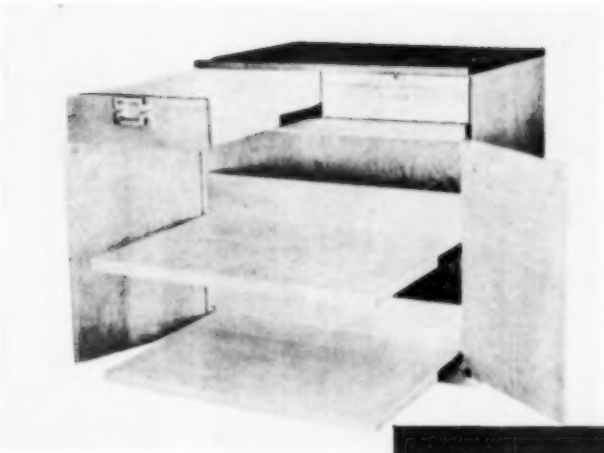
Libbey·Owens·Ford Glass Company
Patterned and Wire Glass Sales
B-953 Nicholas Building, Toledo 3, O.

Please send me your two idea books:
Patterned Glass for Modernization in commercial buildings;
New Adventures in Decorating for residences.

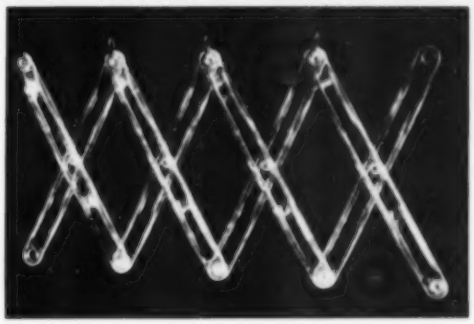
Name (please print) _____

Street _____

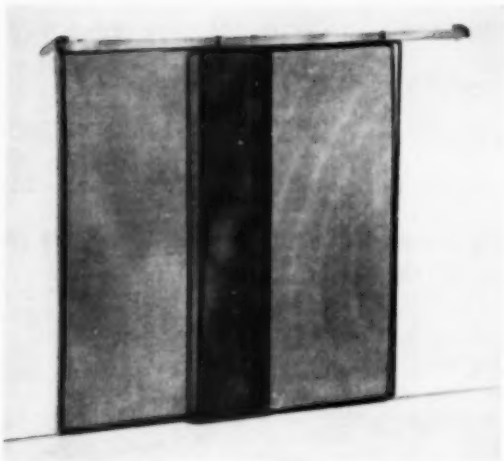
City _____ Zone ____ State _____



Extension Drawer Support: "New Standard"/ eliminates need for framing between drawers, saves space, permits full extension/ 18-gage cold-rolled steel/ 10 standard sizes—7" to 30", to fit drawers 7'-¾" to 36"/ **The Extension Drawer Support Co., 2319 W. Washington Blvd., Los Angeles 18, Calif.**

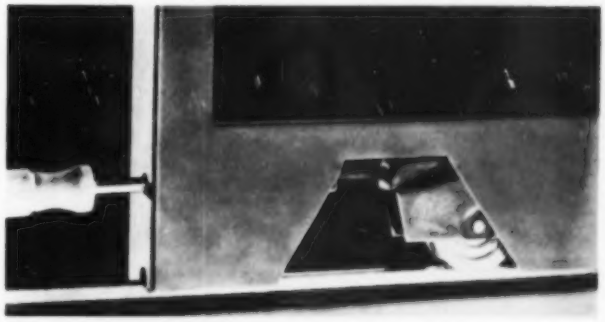


Draw-Drapery Spacing Device: "Kirschspacer"/ automatically all slides are powered directly by the pull-cord/ each pleating space between slides can be up to 5½" in width/ polystyrene transparent plastic/ **Kirsch Company, Sturgis, Mich.**



Adjustable Sliding-Door Rollers: brass roller incorporated in steel-framed glass doors/ may be adjusted with a screw-driver to raise or lower door without removing from frame/ **Arcadia Metal Products, P. O. Box 657-32, Arcadia, Calif.**

Firescreen: #H615/ panels slide full length of track, saving space and effort/ panels of steel and steel mesh painted black, track of brass/ 30" high, 38" wide/ manufactured by Howard Miller Clock Co./ designed by George Nelson/ **retail:** $25/ **Richards Morgenthau Company, 225 Fifth Ave., New York, N. Y.**



this is GLASS

The TIME-TESTED MATERIAL

- It is non-combustible . . . won't burn.
- It is rigid . . . doesn't sag or warp.
- It has a permanently hard, impervious surface, not affected by time, abrasion or exposure to the elements.
- It won't corrode or stain.
- It resists chemicals—acids, solvents, etc.
- It retains its original clarity, brilliance and lustrous beauty.
- It is easily installed, maintained and cleaned by conventional methods.

The traditionally-preferred material for window and skylight glazing, glass, and glass alone, gives you the proven performance you need for better daylighting at ultimately the lowest cost.

Send for free catalog, "ABC's of ROLLED GLASS" Samples on request.

see our catalog in ARCHITECTURAL FILE or write for copy

There is no Substitute for GLASS!

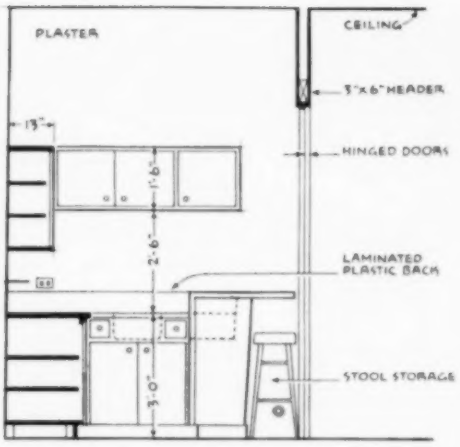
MISSISSIPPI Glass COMPANY

88 ANGELICA ST. SAINT LOUIS 7, MO.

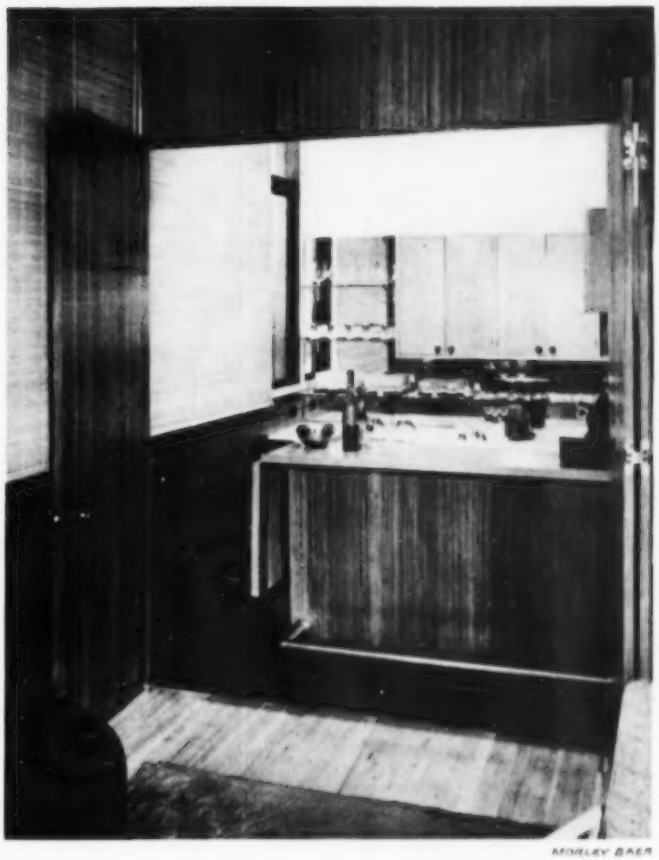
NEW YORK • CHICAGO • FULLERTON, CALIF.

WORLD'S LARGEST MANUFACTURER OF ROLLED FIGURED AND WIRED GLASS

house: bar

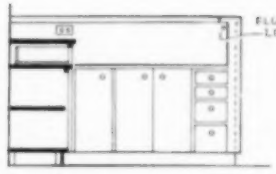


Elevation B 1/4" SCALE

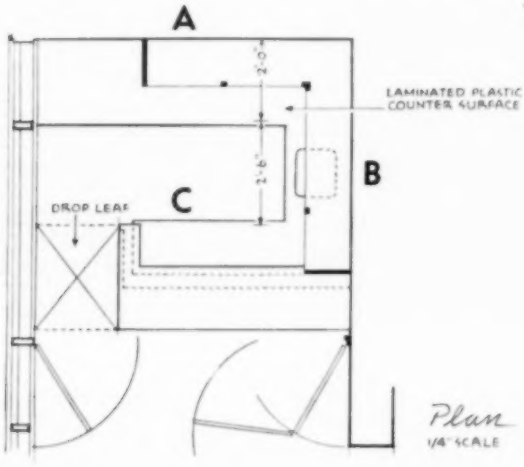


MORLEY BAER

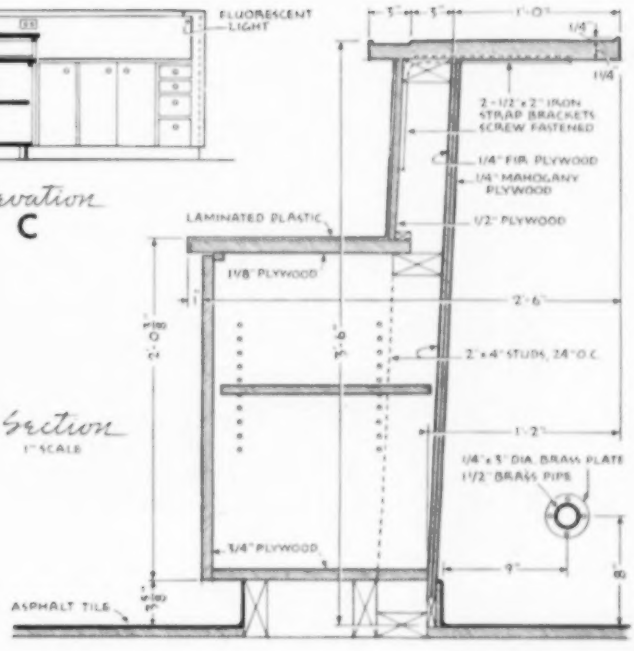
Elevation A 1/4" SCALE



Elevation C



Plan 1/4" SCALE



Section 1" SCALE

COSMAS HOUSE, Marin County, Calif.

Henry Hill, Architect

ASK THE AEROFIN MAN

About Practical Heat Exchange

There is a competent Aerofin heat-transfer engineer near you—qualified by intensive training and long experience to find the *right* answer to your own particular heat-exchange problem—and backed by the research and production facilities of the pioneers in light-weight extended surface.

Ask the Aerofin Man.

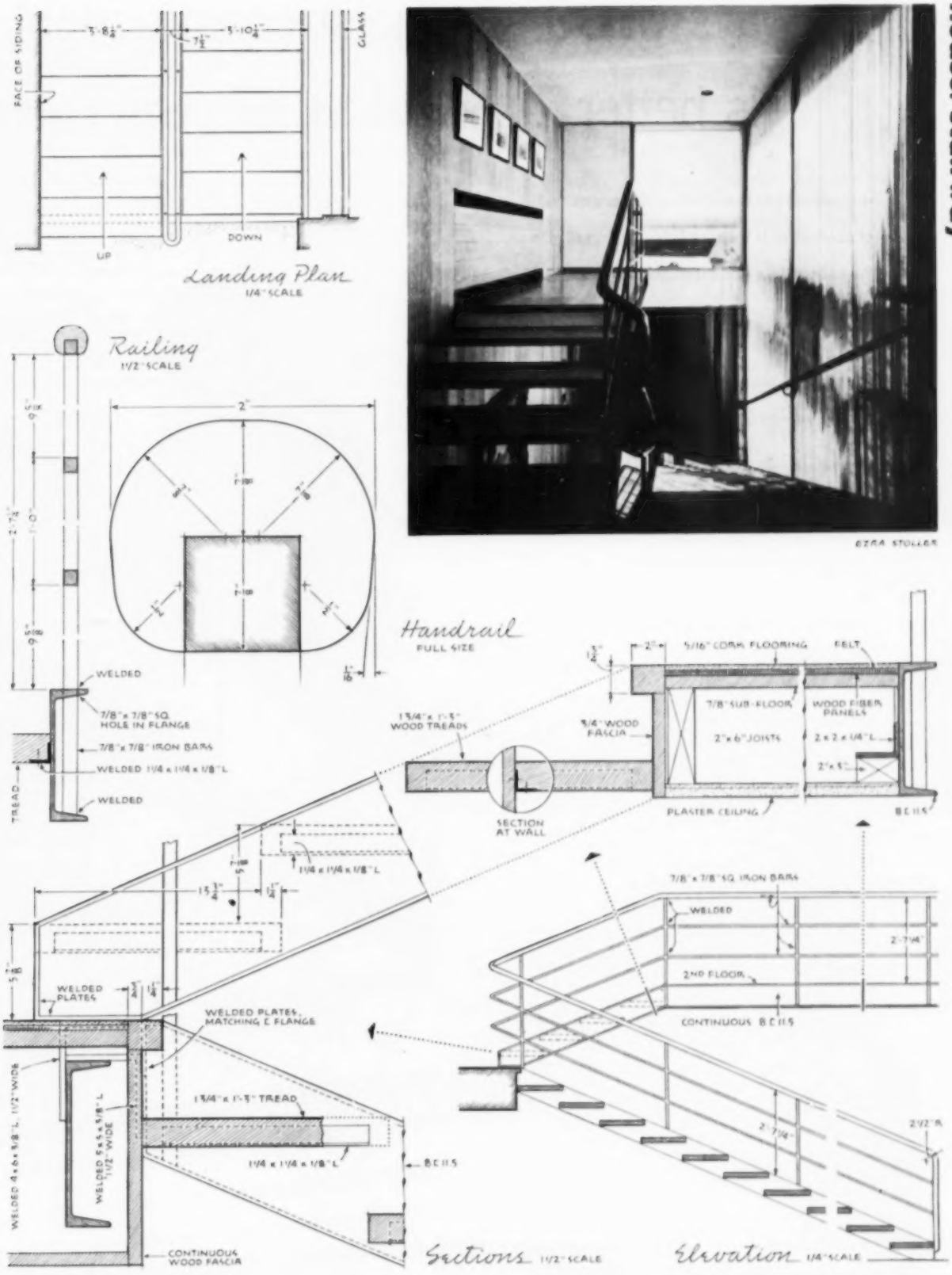
Aerofin is sold only by manufacturers of nationally advertised fan system apparatus. List on request.

AEROFIN CORPORATION

410 South Geddes St., Syracuse 1, N. Y.

house: stairway

EZRA STOLLER



REID HOUSE, Purchase, N. Y.

Edward L. Barnes, Architect

10 ways CECO steel joist construction is better . . . **prove it to yourself!**

+ Every day you hear claims of how one method of construction is better and cheaper than all others.

We at Ceco believe that facts and only facts should be given the building industry—so we offer a check list which covers the important requirements for light occupancy building. We have checked each point where Ceco meets the need. Make your own comparison with any other method of construction

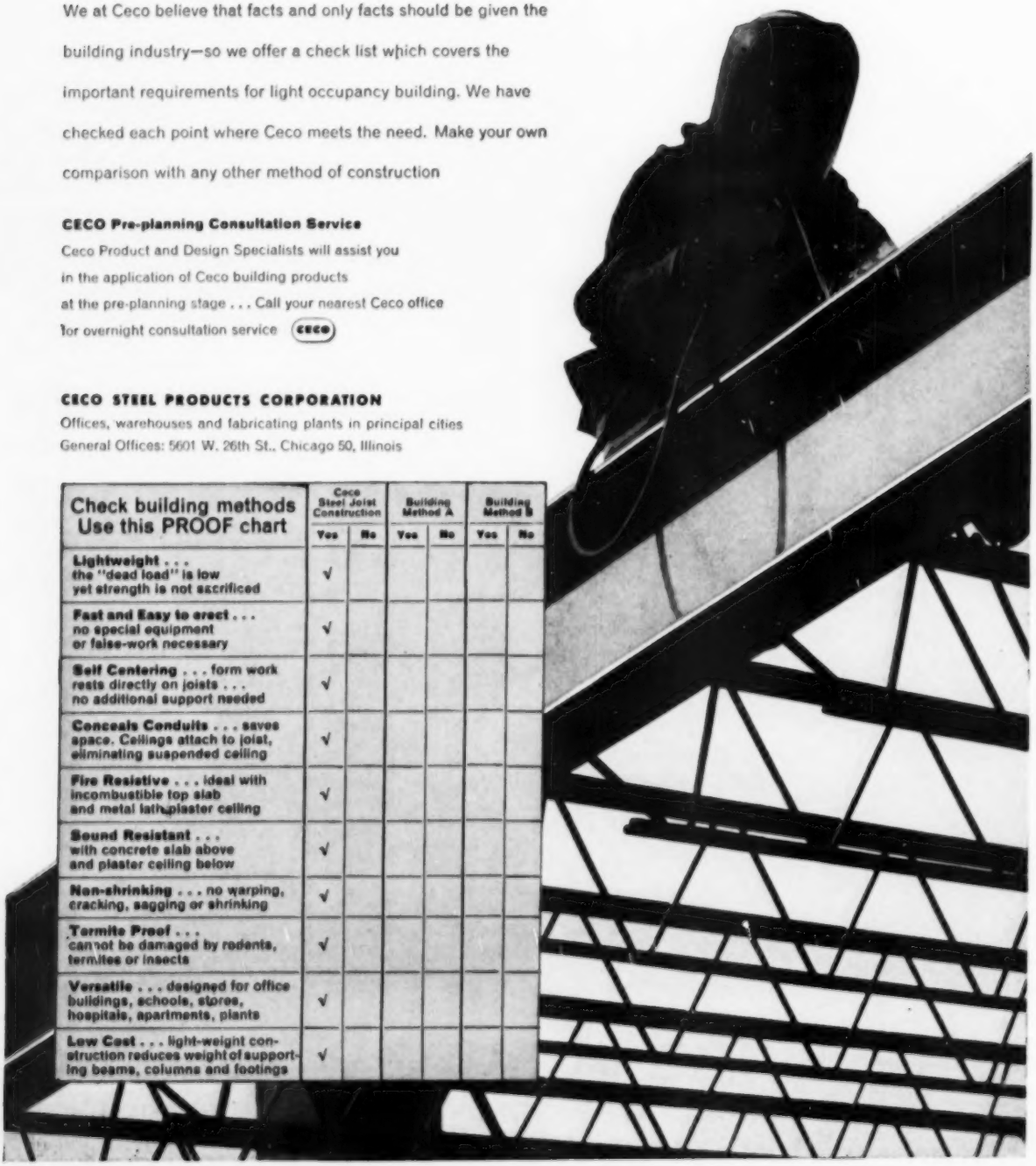
CECO Pre-planning Consultation Service

Ceco Product and Design Specialists will assist you in the application of Ceco building products at the pre-planning stage . . . Call your nearest Ceco office for overnight consultation service (CECO)

CECO STEEL PRODUCTS CORPORATION

Offices, warehouses and fabricating plants in principal cities
General Offices: 5601 W. 26th St., Chicago 50, Illinois

Check building methods Use this PROOF chart	Ceco Steel Joist Construction		Building Method A		Building Method B	
	Yes	No	Yes	No	Yes	No
Lightweight . . . the "dead load" is low yet strength is not sacrificed	√					
Fast and Easy to erect . . . no special equipment or false-work necessary	√					
Self Centering . . . form work rests directly on joists . . . no additional support needed	√					
Conceals Conduits . . . saves space. Ceilings attach to joist, eliminating suspended ceiling	√					
Fire Resistive . . . ideal with incombustible top slab and metal lath-plaster ceiling	√					
Sound Resistant . . . with concrete slab above and plaster ceiling below	√					
Non-shrinking . . . no warping, cracking, sagging or shrinking	√					
Termite Proof . . . cannot be damaged by rodents, termites or insects	√					
Versatile . . . designed for office buildings, schools, stores, hospitals, apartments, plants	√					
Low Cost . . . light-weight construction reduces weight of supporting beams, columns and footings	√					



by Bernard Tomson

it's the law

Periodically this column supplements Tomson's *Architectural and Engineering Law* (Reinhold 1950) by reporting briefly summaries of cases decided and other matters of interest occurring since the publication of the book. The last such summary appeared in April 1952 P/A. A number of cases that merit more than a capsule treatment will continue to be discussed in more extensive fashion.

PRACTICE STATUTES

Statutes regulating the practice of architecture, professional engineering, land surveying, and building construction are in the interest of the public health, safety and welfare, and are therefore upheld as a valid exercise of the state police power.

Michigan. (U. S. Dist. Ct.) *Lowey v. A. Rosenthal, Inc.*, 104 F. Supp. 496 (1952). In an action to recover for services rendered by industrial designers in connection with the proposed modernization of defendant's store to increase the volume of business, the Court found that the services consisted of industrial design work and not architectural work within the meaning of the Michigan statutes requiring a license to engage in the practice of architecture but making such requirement inapplicable to the practice of any other legally recognized profession.

The Court cited with approval *Teague v. Graves*, 261 App. Div., 692, 27 N. Y. S. 2nd 762, which stated in part:

"Industrial Designing as a separate field of endeavor has been developed recently . . . it is now recognized by many institutions of learning . . . The graduates from the universities, institutes and schools who will have scholastic degrees as Industrial Designers doubtless will be regarded as professional men . . ."

●

Illinois. *Gastaldi v. Reuterman*, 345 Ill. App. 510, 104 N.E. 2d 115 (1952). Plaintiff submitted a bid for construction of defendant's salesroom and garage based upon plans drawn by a licensed architect retained by the defendant. Defendant refused to proceed with the project after numerous conferences. The Court determined that the defendant dealt with plaintiff knowing that he was a general contractor and that the contract did not call for the rendition of architectural services by the plaintiff so as to preclude recovery for services rendered on the ground that he was not a licensed architect. The Court declared that under the act defining the practice of architecture and under Section 4 which provides that the act shall not prevent the employment of superintendents of construction, etc., it was not the intent of the legislature that supervision of construction by a licensed architect should necessarily preclude any other supervising of the construction.

On P. 117, the Court quotes an earlier Illinois case as follows:

"The object of this statute was not to protect architects merely by limiting the work to those that possessed a license. The real purpose of the statute is the protection of the public against incompetent architects, from whose services damage might result to the public by reason of dangerous and improperly constructed buildings and by badly ventilated and poorly lighted buildings."

●

New York. *D'Lubosch v. Andros*, 200 Misc. 400, 109 N. Y. S. 2nd 491 (1951). In an action for work, labor, and services rendered in drawing plans and specifications for a dwelling which defendants had contracted to have constructed the court held that the licensed engineer was entitled to recover for drawing the plans and specifications even though he was not a licensed architect. In view of the fact that the practice statutes make no distinctions between the services which may be legally rendered by a licensed engineer and an architect, it is not contrary to the fundamental purpose of licensing which is to protect and safeguard life, health, and property.

PRACTICING WITHOUT A LICENSE

The failure of an architect, engineer, surveyor, or general contractor to procure a license as required by statute may constitute a misdemeanor subjecting him to criminal prosecution, and render the contracts he has entered into for the performance of professional services illegal and void.

California. *Walter M. Ballard Corp. v. Dougherty*, 234 P.2nd 745 (1951). Where the practice statute made the practice of architecture by an unlicensed person a misdemeanor, the Court held that an unlicensed corporation, engaged in the business of hotel decoration, was not lawfully precluded from hiring a licensed architect for the preparation of the plans and specifications pursuant to a contract between the hotel owner and the plaintiff.

POWERS OF LICENSING BOARDS

Licensing Boards created by statute may grant and revoke licenses as empowered by statute. Courts will generally overrule their determination only in clear cases of abuse of discretion.

●

Nebraska. State ex.rel. *Binty v. Nebraska State Board of Examiners For Professional Engineers and Architects et al.*, 155 Neb. 99, 50 N.W. 2nd 784 (1952). The statute requires the board to examine the evidence and exercise its discretion with reference to every application for a certificate of registration as an engineer or architect that is filed. The Court held that mandamus would not lie to control the exercise of discretion vested by the board and require it to issue a certificate of registration where the board had already denied the application.

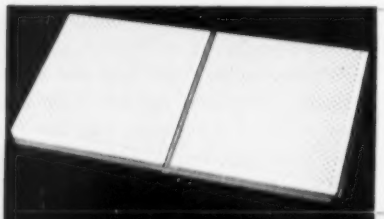
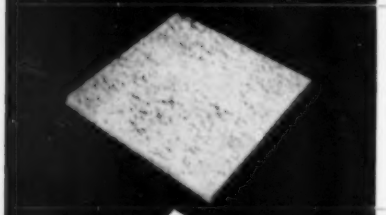
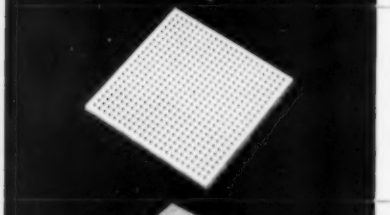
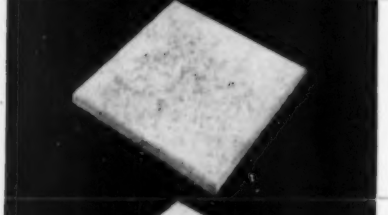
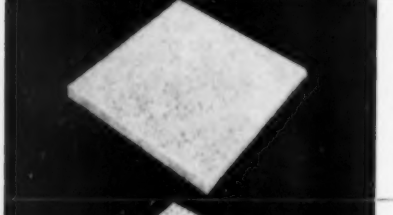
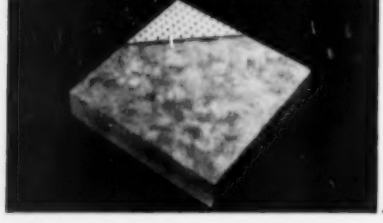
●

Nebraska. *Downs v. Nebraska State Board of Examiners of Professional Engineers & Architects*, 139 Neb. 23, 296 N.W. 151 (1941). Plaintiff was held entitled to mandamus directing Board of Examiners to issue a certificate of registration to practice engineering without an examination where statutory provisions of residence, good character, payment of registration fee were complied with and plaintiff was a professional engineer of good standing holding two engineering degrees.

The only **COMPLETE** acoustical line!

THERE'S a Gold Bond acoustical product to meet every sound-conditioning need, and fit every budget. Your local Gold Bond Acoustical Contractor will be glad to show you these materials, and give you more facts about them. You'll find him listed in the yellow pages of your phone directory under "Acoustical Contractors." He's factory-trained and his acoustical engineering service is at your disposal. Without obligation, he will work with you to select the right product for the job. For additional information on the complete Gold Bond line, see our section in Sweet's or write Architect Service Dept., National Gypsum Company, Buffalo 2, New York.

America is sound conditioning with Gold Bond

		Noise Reduction Coeff.	Thickness	Sizes	Finish
	**ACOUSTIMETAL** Low maintenance cost. Can be washed or painted any number of times. Panels quickly removed for access to plumbing and wiring. Incombustible, permanent, salvageable. High acoustical efficiency.	.85	1 3/16"	12" x 24"	Alkyd resin enamel finish. Baked on by infra-red light. Bonderizing of metal assures greater adhesion of paint.
	**TRAVACOUSTIC** Beautiful mineral tile resembling natural travertine stone. Fissures vary in size, depth and arrangement. Incombustible, sanitary, acoustically efficient. Resistant to mold and vermin.	.65 .70 .70	11/16" 13/16" 7/8"	6" x 12" 12" x 12" 12" x 24"	Non-glaring white finish applied at the factory gives high light-reflection. Repaintable with brush or spray gun.
	**ACOUSTIFIBRE** Repaintable wood fibre tile. Einhiple-drilled for round, clean holes deep into porous core. Finish resistant to mould and fungus. Sanitary, washable.	.55 .65 .70	1/2" 5/8" 3/4"	12" x 12" 12" x 24" 24" x 24"	Factory-applied, washable shell-white Restex or Flame Resistant finish on face and bevels results in high light-reflection.
	**ECONACOUSTIC** Low cost wood fibre tile. Distinctive brushed texture surface offers unusual natural beauty. Cleanable with vacuum cleaner.	.55	1/2"	12" x 12" 12" x 24"	Prepainted white. May be spray-painted when other colors are desired.
	**THERMACOUSTIC** A mineral wool product especially adaptable to irregular surfaces. Spray-applied to any desired thickness. Rotproof. Also provides thermal insulation and fire protection.	.80 at 1/2" thickness on metal lath	As desired	Monolithic	Fissured texture can be repainted to harmonize with the decorative scheme without destroying its acoustical properties.
	**PERFORATED ASBESTOS-ZEROCEL WOOL SYSTEM.** Durable, incombustible acoustical system. May be "custom built" to job requirements. Inorganic composition. Will not retain moisture.	.80	1"	12" x 12" 12" x 24" 24" x 24" 24" x 48"	Furnished unpainted in natural gray color. Can be painted any color and repainted any number of times.

Lath, Plaster, Lime, Sheathing, Gypsum Roof Decks, Wall Paint, Textures, Rock Wool Insulation, Metal Lath, Roofing, Siding, Sound Control Products, Fireproof Wallboards

by Carl Feiss

out of school

Prof. Harlan Ewart McClure of the School of Architecture, University of Minnesota, a previous contributor to this column, is at present a Fulbright Professor on leave-of-absence from the University of Minnesota, for the school year 1952-53, teaching at the Architectural Association School in London. Prof. McClure is well known to architectural educators in this country and I therefore asked him to be guest columnist this month, to summarize his experiences in England and to describe the differences between British architectural training and that of the United States. Without further introduction I present Harlan McClure.

training architects in Britain today

London—The other morning, I sat with three of my students at the Architectural Association discussing their current problem in design and reviewing some required measured drawings which they had just made. It was before the usual coffee-time but the conversation took such an interesting turn that we all completely forgot the refreshment. The design problem was an interesting factory of glass and concrete, and the object that had been measured by the group was a garden pavilion by Robert Adam. One of the chaps said that the Adam piece was a "delicious bit of architecture"—and indeed it was!

It seems to me that there are very few schools of architecture in the United States where a student would dare make such a comment about a mid-18th Century building, even if he really felt that way about it. Paradoxically, this does not brand the particular student as an eclectic type. He would not dash out at the first opportunity and do a building with embroidered pilasters and swags. His work in creative design is full of the normal, healthy indiscretions which are characteristic of the good work of students everywhere, but by no stretch of the imagination could it be considered archeological. Moreover, despite inexperience and the overconfidence which goes with the product of a good English public-school, he has the talent and imagination that should be prerequisites for a career in architecture.

At this point, the questions might well be asked whether this interest in architectural history is a general disease in Britain, and if so, how acute. The average student that I have encountered here is very much more aware of history than his opposite number in the U. S. He is a keen reader in all fields, and his rich background is at once an advantage and a handicap. This awareness of inheritance, coupled with the high standards of criticism in this country, causes him to talk rather more about architecture, old and new, than the young American. And if I

(Continued on page 150)

Architects Lundeen and Hilfinger, Bloomington, Ill., designed this modern building for the Kemp Grain Co. of Lexington, Ill. Rilco Laminated wood beams are 36′ long, spaced 6½′ O.C. Rilco V columns are 10′ 4″ high.

Dramatic new designs with

RILCO *Laminated*

BEAMS and V COLUMNS

RILCO laminated beams and V columns LOOK expensive, so they're particularly valuable when you want a fine building at moderate cost. The richness of the wood warms and softens utilitarian structures . . . gives a luxurious, inviting atmosphere.

Yet the material cost is surprisingly low. And all members are smoothly-surfaced, precision cut and drilled for assembly hardware, to make erection fast and simple.

These custom fabricated beams and columns offer unlimited possibilities in designs of all types and costs. For information on specific installations, write for literature or see our 16-page catalog in Sweets.

RILCO RILCO *Laminated* PRODUCTS, INC.

2517 First National Bank Building, St. Paul 1, Minnesota

out of school

(Continued from page 149)

were to be very general and a bit unkind in judgment, I might say that he produces a bit less. Theory quite as much as history is the subject of great interest—fine points of Renaissance proportion or daylighting problems in the modern factory may be the subjects for daily argument.

An old friend of mine who is a professor of art here, and neither British nor American, describes his students as these "literary artists," and one is sometimes inclined to so describe the British architectural student. This is, of course, not fair. He is basically not so very different from his American counterpart. He is, however, the product of his background and of his time—and in these differs from the architectural student in the United States.

●

Perhaps we should examine briefly the building activity of the last decade and a half in this country, and attempt to show the relation of this to the attitudes and to the opportunities of the architectural student and the young graduate. This is the general climate in which the architectural profession exists, and in which men are trained. The type of architectural education offered to the British student needs also to be described, as do the mechanics of transition from the state of student to that of full-fledged architect.

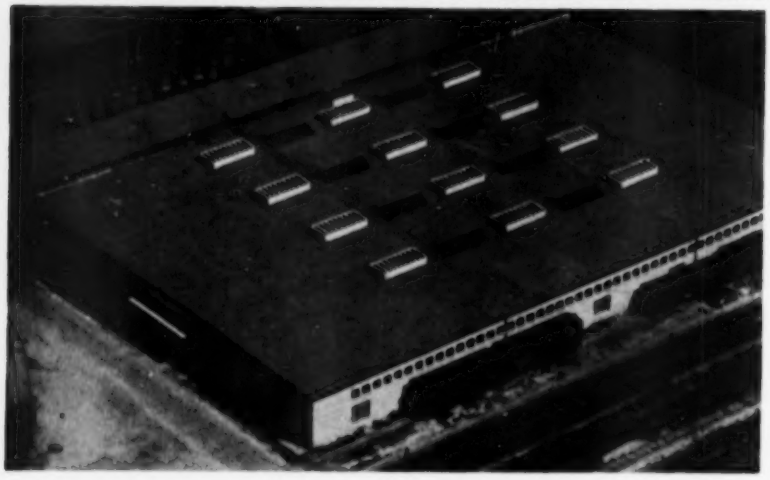
Having been an architectural student during the depression, to me the dependence of our profession upon the general health and character of the national economy has from those days seemed quite real. American architects in the beginning 1930's were engaged in a wide variety of nonarchitectural activities, if indeed they were lucky enough to be engaged at all. This was followed by a period of architecture characterized by economy and governmental subsidy, by brief "normalcy," and then the years of war building. Now we have a postwar period of almost unprecedented prosperity for all sections of the building industry. British building history during this same period has been somewhat different, and I shall hazard boring you with perhaps familiar facts, by briefly reviewing it.

Although the great depression certainly hit Britain, it is probably fair to say that it did not affect the building industry as profoundly as in America. The bubble had not been blown up to such size, and the subsequent burst was not so great. Actually Britain had not really recovered in the 1920's from World War I. Older friends of mine here, who have practiced continually through all of this, say that they tightened their belts but did not close down their offices. Until World War II, architectural practice in Britain had its ups and downs, but they do not seem to have been as pronounced as those experienced in America. But then came World War II, and from 1939 to this day "normal" building, as we would consider it, has not been possible.

Available materials and building com-

(Continued on page 152)

Airmover ventilates a multitude of roofs



New Orleans warehouse has "wholesale" low cost ventilation with low contour Airmover

A warehouse today — a mammoth processing plant, factory building, garage, recreation hall or school tomorrow — figure the Airmover *first*, for most efficient large scale ventilation. You'll be amazed at the variety of applications being made with this versatile modern ventilator design. Only 32" high above its curb, Airmover keeps structural sky-lines low and "neat". Used in single or multiple unit installation, it provides as little or as much ventilation as required by the building's occupancy.

Airmover installs on any roof. Completely weatherproof; adjustable dampers for varied opening. Low-air-friction design assures high capacity. Low cost per square foot of opening. Write for Bulletin AM-E

See our catalog in Sweet's

18511 Euclid Avenue, Cleveland 12, Ohio

The Swartwout Co.

Roof Ventilators and Ventilating Louvers

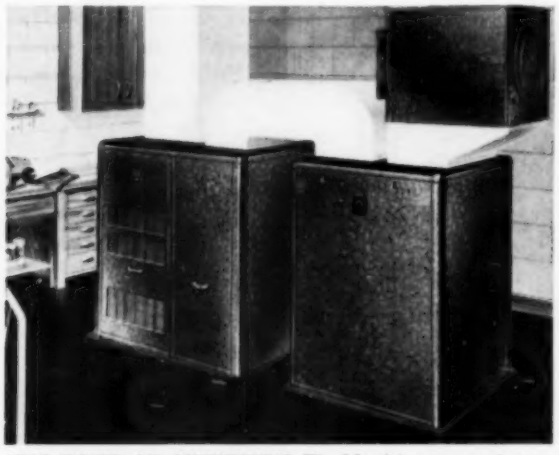
POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS

PRODUCT NEWS from AMERICAN-Standard

A review of products in the news and important features worth remembering

REMOTAIRE ROOM CONDITIONER. This remote type unit for multi-room installations heats in winter, cools in summer, filters and circulates the air all year 'round! Individually controlled units use chilled or heated water supplied through a simple piping system from a central water chiller and heating plant . . . no unwieldy ductwork needed.

EMPIRE GAS BOILER. A compact, good-looking and efficient boiler that's available in models for hot water or steam, for basement or first floor installations. Burns any type of gas. Features include pintype cast iron sections which absorb maximum heat . . . precision controls to guard safety and fuel consumption . . . heavy insulation to prevent heat loss . . . colorful, streamlined jacket.



YEAR 'ROUND AIR CONDITIONING. The Mayfair summer air conditioner shown at the right above uses the ductwork of winter air conditioning system . . . mechanically cools and dehumidifies the air. In the return duct above the Mayfair is the Magne-filter, a dry type electronic air cleaner, which removes smoke, dirt and bacteria by electrostatic action.

CONVERTIBLE KITCHEN CABINETS. American-Standard all-steel cabinets are the *only* kitchen cabinets with interchangeable drawers and shelves. This feature affords wide flexibility in kitchen planning. Homeowners can, at any time, create deluxe kitchens to fit their particular needs just by adding extra shelves and drawers.

AMERICAN-Standard

American-Standard
Dept. PA-53, Pittsburgh 30, Pa.

Without obligation on my part, please send me your free literature on:

- ☐ Remotaire Room Conditioner
- ☐ Mayfair Summer Air Conditioner
- ☐ Magne-filter Air Cleaner
- ☐ Empire Boiler
- ☐ Kitchen Cabinets

Name .....

Address .....

City ..... State .....

American Radiator & Standard Sanitary Corporation, Dept. PA-53, Pittsburgh 30, Pa.

Serving home and industry

AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS

out of school

(Continued from page 150)

ponents during these last 13 years have been unobtainable, or rationed in some degree. The average architectural student of 18 or 19 cannot remember free building activity of the sort going forward on every side in America today. The war period of about six years, marked by almost no nonmilitary building, was followed by the postwar era of carefully controlled building with social-emphasis. Immediate building problems facing the almost bankrupt postwar government were housing, schools, and factories. The housing problem facing all belligerent nations was great, but it was so serious in Britain that units of a temporary emergency type had to take precedence over other construction. Buildings for industrial production, so seriously damaged by war, had to be provided at the expense of any and all building of a nonutilitarian type. The war-years had caused rapid changes in popular attitudes towards state-provided education and buildings for it. Thus schools, too, were placed on the list of critical social-construction. Other building was obliged to wait—and rightly so.

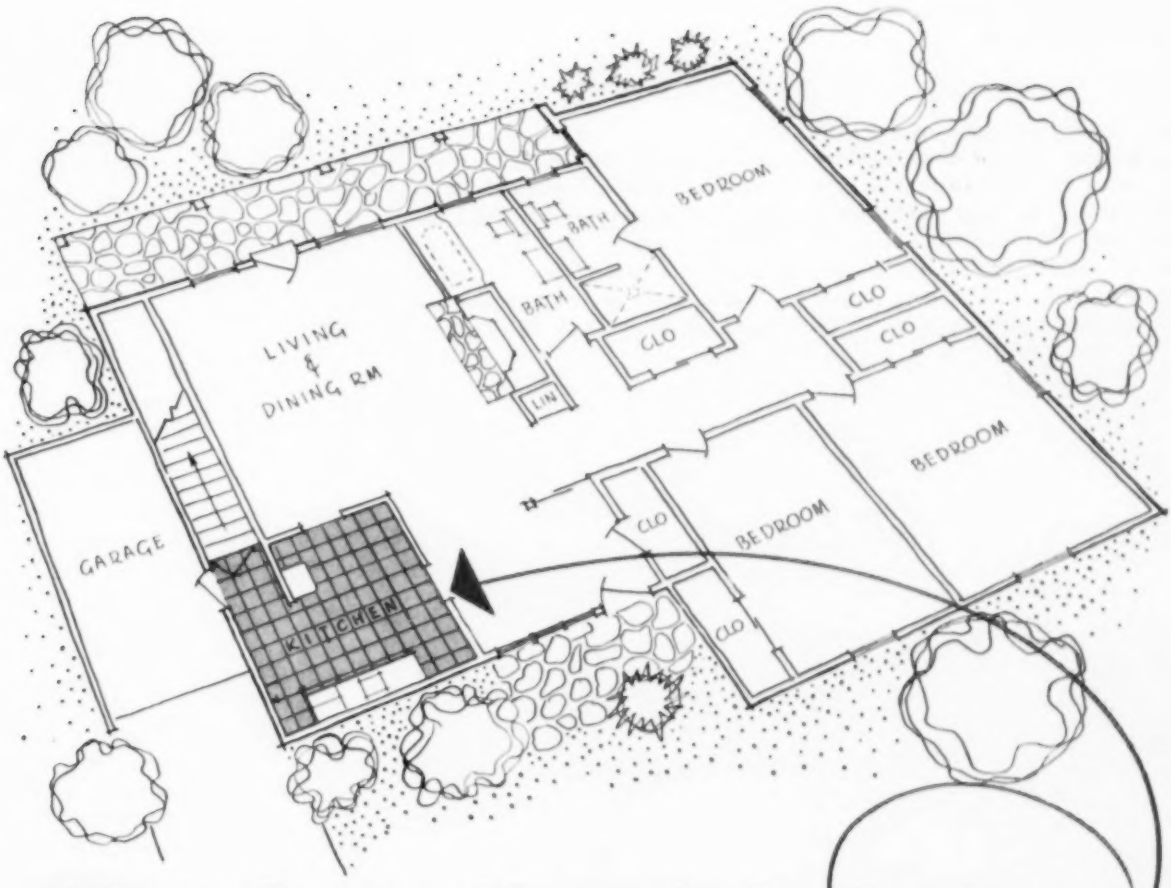
●

One would be quite wrong in believing that all postwar building activity in Britain is dull and unexciting. Much of it is quietly functional, but a fair percentage is experimental in the best sense, and some of the schools and factories are of particularly high design quality. The prefabricated schools in Hertfordshire are prototypes of things to come, and the size of the county operation has enabled these projects to become progressively better. Except for the Festival of Britain, the architectural student here has seen very little contemporary building that could be classed as postwar frivolity. This is perhaps a pity, and the temporary character of the Festival Architecture has had an influence on student design.

In general, the British student is different from the American student, not only in depth of feeling regarding socially important architecture but also in the knowledge that his professional activity in the forseeable future will probably be restricted to building of a more or less utilitarian nature. There is a little London joke to the effect that the Architectural Office of the London County Council, engaged in building schools and housing is the "sixth year" in the architectural curriculum. Indeed, the future of many of the young architects in this country seems to lie in government employment, at least at first. In recent months, the new government has eased some of the restrictions on building, particularly as pertains to construction for farms and smaller private housing. Nevertheless, the materials and energies of the building industry must be primarily concentrated for some time to come on those types of buildings which can best serve the economy and the essential needs of the whole British people.

We seem to have a partial profile of the young architectural student: literate, vis-

(Continued on page 154)



What about rubber tile for kitchens?

Architects familiar with the unusual resilience, extra durability, and outstanding beauty of Armstrong's Rubber Tile have often asked, "Can I use rubber tile for kitchens?"

Increased use of Armstrong's Rubber Tile in basementless houses has also intensified interest in specification of this luxurious floor for residential kitchens. Until recently, however, the basic characteristics of the rubber used in manufacturing rubber tile limited its resistance to cooking oils, grease, and fats. Most experienced contractors have in the past agreed that rubber tile should not be installed in kitchens.

Grease resistance increased

Improved compounds, introduced since the war, have given Armstrong's Rubber Tile substantially increased grease resistance. As long ago as 1949, rigid laboratory tests indicated that Armstrong's Rubber Tile was completely satisfactory for residential kitchens. But that wasn't enough.

Armstrong wanted absolute proof

Because both your reputation and Armstrong's were at stake, recommendations for Armstrong's Rubber Tile continued to be limited until it had proved itself in actual use. Practical tests of actual kitchen installations under varying conditions were begun. Three years of continuing field tests have proved completely successful.

Armstrong's Rubber Tile is now recommended for installation in residential kitchens

After this thorough testing, you can specify Armstrong's Rubber Tile for kitchens with confidence. It has demonstrated its ability to withstand the usual conditions encountered in the home.

What about abnormal grease conditions?

For commercial and institutional areas, where grease conditions are excessive, rubber tile should not be specified. For recommendations on specific installations, call the Armstrong District Office in your area or write Armstrong Cork Company, 605 Watson Street, Lancaster, Pa.

ARMSTRONG'S RUBBER TILE

Armstrong Cork Company • Floor Division, Lancaster, Pa.

out of school

(Continued from page 152)

ionary, innocent of experience with frivolous functions if not of architectural frivolities, and dedicated to a career of good works. This is an obvious oversimplification. There is a tremendous variation in the end-product of the architectural schools in the U. S.—and this is also the case in Britain.

●

Architectural schools here are charged with even greater responsibilities than those facing American colleges providing training in architecture. The licensing of architects is the prerogative of the Royal Institute of British Architects, and is not, as in the United States, in the hands of government. The R.I.B.A. has accordingly granted to the schools of architecture privileges and responsibilities to facilitate the discharge of this duty.

Schools in Britain and throughout the Commonwealth are recognized by the R.I.B.A. as *Intermediate* and *Final Schools;* the graduates of the Intermediate Schools are excused only from intermediate examinations requisite for R.I.B.A. associateship (licensing) while the graduates of Final Schools are excused from both intermediate and final examinations. Persons training for the profession through office apprenticeship may take R.I.B.A. examinations externally, as may those students from unrecognized schools.

The recognized schools are found in a variety of family backgrounds. There are Final Schools attached to universities, colleges of art, technical institutions, and one is a completely independent school. Similarly, the Intermediate Schools are attached to the same general types of parent institutions as the fully recognized schools, except that only one is attached to a university. Quite naturally, the students from the Intermediate Schools very often transfer at the end of the third year to fully recognized ones. Generally speaking, these students attend the Intermediate Schools during the first years because such study can be pursued in their own home town, or because of other related economic factors. Some in more favorable financial circumstances may go to an Intermediate School such as the one at Cambridge University, because of the character of the parent institution. Some such students transfer to fully recognized schools after three years, and others complete the course where they are and take their chances with the external examinations.

Since the R.I.B.A., in a sense, delegates much of the actual task of licensing architects to the recognized schools, it quite properly exercises the right of inspecting these schools, and through standing committees and boards has the whole picture of architectural education under constant review. The rapid sociological and technical changes which have characterized the period since 1902, when the schools first assumed this function, have demanded that a flexible attitude towards

(Continued on page 156)

The McKinley 2 & 4 Lamp

4 & 8 FT. LUMINOUS INDIRECT LUMINAIRES—

- Modern designer styling, creative engineering and fine craftsmanship are combined into a unit of exceptional beauty and high overall efficiencies.
- Curved panels of white, ribbed polystyrene give high reflectivity and produce a luxurious quality of illumination.
- The illuminated unit blends into the ceiling since its surface brightness and that of the ceiling are nearly equal.
- Unit is below the minimum brightness specifications of Illuminating Engineering Society.

Write for Data Sheet B-9 for Complete Specifications

PITTSBURGH REFLECTOR COMPANY

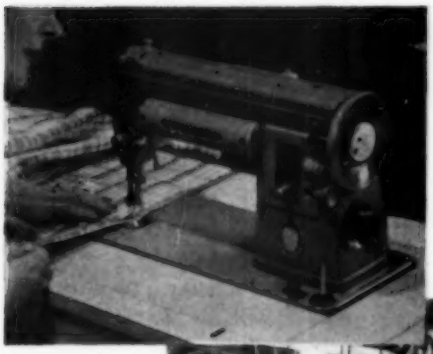
421 OLIVER BUILDING, PITTSBURGH 22, PA.

FLUORESCENT Pittsburgh Permaflector INCANDESCENT

Lighting

REPRESENTATIVES IN PRINCIPAL CITIES • WHOLESALERS EVERYWHERE

Workers Sing in the Showers
Regulated by POWERS
at The SINGER MANUFACTURING CO.
Plant in Elizabethport, New Jersey

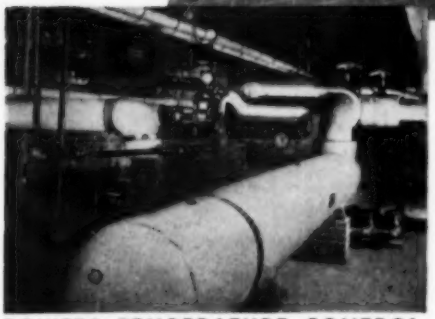


Above:
A magnificient new model in the already world-famous line of SINGER Sewing Machines

•

Right:
One of Singer's Shower rooms has 98 showers, another 58 and there are several smaller ones for individual groups.

Some of the 190 Clean, Modern Showers at The Singer Mfg. Co. Each shower is individually controlled by a



POWERS TEMPERATURE CONTROL on HOT WATER GENERATORS

serving the various shower rooms is shown above. For this type of service a Powers ACCRITEM Regulator and FLOWRITE Valve are often used.

When You Have Problems of Water Temperature Control contact Powers nearest office. With over 60 years experience and a most complete line of controls we are well qualified to help you.

Mixer for Exposed Piping

POWERS

Thermostatic WATER MIXER

The Best Showers that money can buy — is only one of the many reasons why employees remain almost twice as long with SINGER as the national average.

Mr. F. H. Gummick, Plant Engineer for this famous 100 year old firm, says "The Singer Mfg. Co. has provided employees with the best shower room equipment obtainable. We consider it an investment in good employee relations."

Powers Temperature regulators on each individual shower as well as on the hot water generators serving the showers is the best insurance for a SAFE, COMFORTABLE shower.

No Unexpected "Shots" of icy cold or scalding water here. Powers *thermostatic* water mixers always keep the water temperature just right — regardless of **pressure** or **temperature** changes in water supply lines. **See Powers catalog in SWEETS, section 24b**

(b14a) • ***Only ONE Shower Accident Can Cost Many Times More Than POWERS Water Mixers*** •

Established in 1891 • THE POWERS REGULATOR COMPANY • SKOKIE, ILL. • Offices in Over 50 Cities

out of school

(Continued from page 154)

the problems of architectural education be maintained.

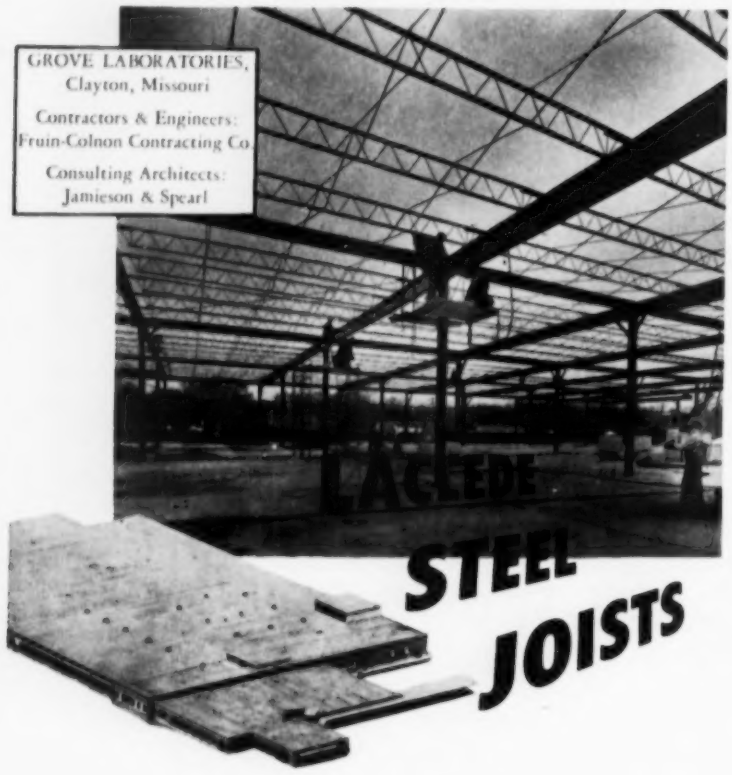
Not only are the quality and content of the curricula of the recognized schools matters of concern to the Board of Architectural Education of the R.I.B.A., but also the distribution of the schools throughout the British Isles and the Commonwealth, the physical accommodation and equipment of the schools, and the important problem of properly staffing these schools. These seem matters of constant concern on both sides of the Atlantic. Conclusions regarding these problems are very well reviewed in the "Report of the Special Committee on Architectural Education" of the R.I.B.A. In the limited space here, I would prefer to make personal observations and recommend that the R.I.B.A. report be read by all interested.

●

In the Design groups I have taught at the Architectural Association during this year, there has been a considerable number of students who have taken their first three years at various Intermediate Schools. Contacts with them and also visits to such schools as the University of Liverpool and the University of Durham, which receive considerable numbers of transfer students from Intermediate Schools, seems to disclose great divergencies in school methods and student attitudes in the Intermediate Schools. Although differences also exist among the Final Schools they are generally less pronounced.

In most of the Final Schools, some problems are undertaken by students in groups. In the Architectural Association, working in groups is often encouraged and collaborative solutions have become more common than individual efforts. The advantages of this method of work are well known; predesign research may be more thorough, solutions tend to be more sound than those of individuals, and students learn to work in collaboration as they must later in the office (particularly in the large county offices of this country). To my surprise, a group of students in my class, recently transferred from an Intermediate School in the South of England, had never worked before in this manner. Moreover, they had never, at this relatively late stage in their professional education, done a proper piece of program analysis and research. They had the inclination, therefore, to split up a complex technical program into bits and approach it as individuals. It has taken two terms for them to get in tune with the school. A group of students, transferred from a different Intermediate School, were unable to think in the strongly independent way, characteristic of the students who had taken all of their training in the Architectural Association. These people seem to be the product of a school which sharply disciplines the design work of its students, not only in beginning courses but also throughout the entire curriculum.

(Continued on page 158)



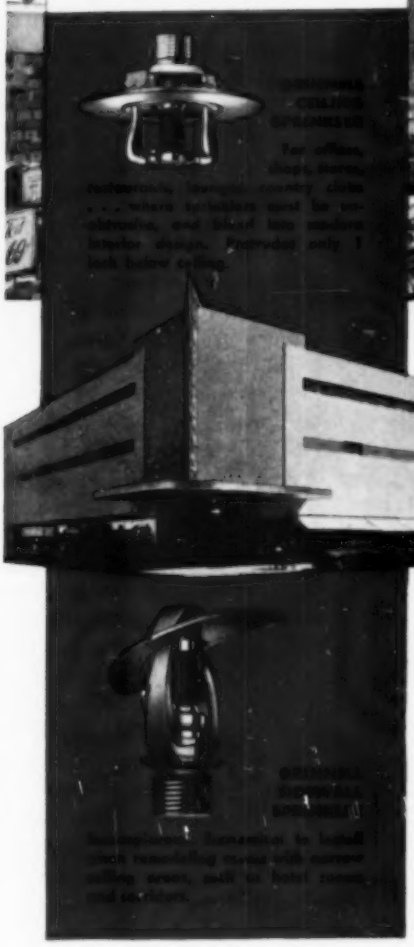
for FRAMING LARGE AREAS ECONOMICALLY... QUICKLY

Specify These Laclede Products: Welded Wire Fabric • Form & Tie Wire • Multi-Rib Reinforcing Bars • Joists • Corrugated Steel Centering • Spirals • Conduit • Steel Pipe • Electrical Weld & Gas Weld Tubing

LACLEDE STEEL COMPANY
St. Louis, Mo.

Congratulations

to G. A. Pehrson & Associates, architects for this smart new J. J. Newberry store in Spokane, for planning an excellent job of fire protection. Of the 1252 Grinnell Sprinklers installed, 626 are the Grinnell flush-type ceiling sprinklers — inconspicuous, yet providing the trustworthy fire protection for which Grinnell has been noted since 1878.



Smartly Planned

Fire Protection

at Newberry's in Spokane

THE BEAUTY OF PLANNING your fire protection systems in the blueprint stage is that you not only get the most efficient protection, but also systems that *harmonize* with your interiors, instead of marring them. And that makes your clients happy.

So consider these two unobtrusive, reliable sprinklers from the start when you visualize your interiors. Get in touch with Grinnell, for there is a Grinnell System of fire protection to meet the needs of every type of commercial, industrial and institutional building. And Grinnell engineers, long experienced in working with architects, are always ready to help you. Grinnell Company, Inc., Providence, R.I. Branch Offices in Principal Cities.

GRINNELL
FIRE PROTECTION SYSTEMS

Manufacturing, Engineering and Installation of Automatic Sprinklers Since 1878

out of school

(Continued from page 156)

As a result, the students almost require directives of procedure rather than criticism of work accomplished.

The student entering the Final Institution in the fourth year naturally is somewhat at a disadvantage which, in the case of the more average student, seems to take almost a year to overcome. The exceptional student, however, may profit a great deal from the varied experiences offered to him by a change of schools.

●

There is always a tendency in an article of this sort to generalize too freely, and I have emphasized the variety of types of school training offered here, in an effort to avoid falling headlong into this pitfall. There are however certain broad conclusions that might be reached concerning the contemporary British undergraduate in architecture and his training. Some of these have already been mentioned.

First, due to the economic and social trends in this country, the student's design problems in school and his method of approaching them have strong social emphasis. Certain types of buildings seem to him to be of vital importance, while others are quite removed from his experience. Emphasis on Group Planning and Town Planning, in the design curriculum, causes him to think constantly about the relation of his design to the larger landscape, be it urban or otherwise. His planning may lack practicality at times, but he almost never ignores the relation of the specific piece of architecture to the general. For example, in the third year at the Architectural Association, the students undertake a town-planning problem which relates to the entire design production of their subsequent undergraduate career. Buildings located in this master plan are developed in programs occurring in the following years. Transfer students, therefore, attach themselves to one of these town-study groups when they enter the school for the final two years.

Second, there is in general a more cooperative effort among the students themselves, and less competition than one seems to feel in the average American school of architecture. This is due to two principal reasons: the abandonment of the competitive marking system, in the general sense of the word, in many of the schools; and the spread of group working on design problems. This does not mean that individual efforts are not recognized, as stellar performance by certain members of teams is soon discovered by students and faculty alike. Some British schools seem to have less group work than others, but almost all have more than one normally finds in American schools. Some of the schools find classification of work into the simple marking categories of *Honors*, *Pass*, and *Fail* is quite sufficient from an administrative point of view. And the petty jealousies caused by ranking the students in jury are obviated. It is interesting to note that although the University

(Continued on page 160)

Securitee
SYSTEMS
For Quality and Durability
Designed to give strength to all acoustical unit installations in which they are used, Securitee Systems (Standard, ¾" and 1½") offer proper support for a truer and more level ceiling. Made from 24 gauge rust-resistant steel each part is engineered to last the life of the building.
See Sweet's Architectural File or write direct for complete technical data.
W. J. HAERTEL & CO.
832 W. Eastman Street
Chicago 22, Illinois
West Coast Distributor
FREY & HAERTEL
125 Barneveld Avenue
San Francisco 24, Calif.
¾" CUP
With patented pressure flange for extra rigidity.
SUSPENSION TEE
10'-0" lengths
⅝" or ¾" web with ⅞" flange.
*T. M. REG. U. S. PAT. OFF.

"Get cleaner threads, tighter joints with Buckeye Conduit!"

AN ELECTRICIAN TALKS ABOUT CONDUIT: "I agree with other electricians that "Buckeye" gives a clean and strong thread. A clean thread is essential for making a really tight, safe joint! Youngstown rigid steel conduit is tops."

ELECTRICAL ENGINEER ENDORSES BUCKEYE CONDUIT: "As an electrical engineer, I have jobs which demand wiring which must withstand vibrations and shock. By specifying "Buckeye" I protect these wires because only good steel produces threads strong enough to make tight and safe joints."

Youngstown makes rigid electrical conduit from start to finish. This enables Youngstown to control the complete manufacturing process which insures that each length of "Buckeye" is made of topgrade steel. Since only high quality steel produces a clean, strong thread, it's no wonder that "Buckeye" is a favorite in the industry. On your next job, be sure to specify Youngstown Buckeye conduit.

Shipments of Buckeye rigid steel conduit are now being made from our conduit mills at Indiana Harbor and Youngstown.

QUALITY YOUNGSTOWN SERVICE

THE YOUNGSTOWN SHEET AND TUBE COMPANY

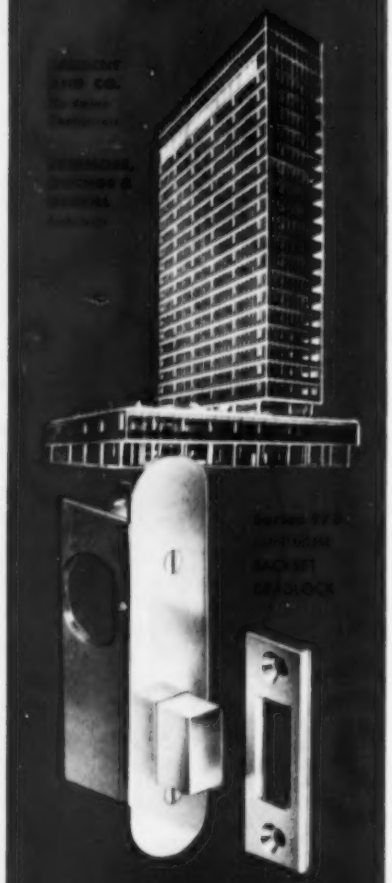
Manufacturers of Carbon, Alloy and Yoloy Steel

General Offices — Youngstown 1, Ohio

Export Office - 500 Fifth Avenue, New York

COLD FINISHED CARBON AND ALLOY BARS · ELECTROLYTIC TIN PLATE · COKE TIN PLATE · WIRE · PIPE AND TUBULAR PRODUCTS · CONDUIT · RODS · SHEETS · PLATES · BARS · RAILROAD TRACK SPIKES

FOR
Lever House
ADAMS-RITE
MINIMUM BACKSET
DEADLOCKS



ADAMS-RITE MANUFACTURING CO.
140 WEST CHEVY CHASE DRIVE, GLENDALE 4, CALIFORNIA, U. S. A.

SPECIALIZED LOCKS AND BUILDERS' HARDWARE

out of school

(Continued from page 158)

of Liverpool has more categories of marking than those mentioned above (using the American system), marks are not made public, as regards individual problems, and the student receives only a total grade at end of term. This also has the effect of reducing jealousies.

Third is the relation of the student to his school. In all of the better schools in this country the student has some voice in school affairs. In some, it takes much the form of American Student Council activity, but is perhaps a bit more responsible. In others it may be even more significant. The policy of the school may be determined by the decisions of the Student-Staff Committee at their regular meetings. At these meetings, matters of school policy are discussed on a level of complete equality, and this has a salutary effect on student morale. In many of the schools it is customary for student representatives to serve on some of the juries; and in a few schools the policy of having students present their solutions to the jury has been adopted. This type of jury procedure is very time-consuming, but has many obvious advantages, and in the many such juries that I have attended the students explained and defended their solutions with good manners.

●

The fact that graduates of the fully-recognized schools are Associates of the Royal Institute of British Architects, and as such are licensed practitioners, means, in theory that fewer lines are drawn between the state of student and practicing architect than in the United States. In actuality, the transition is not so simple. There seem to be fewer architectural jobs in Britain than graduates leaving school and the possession of a license to practice does not mean that the graduate feels really qualified, even if he were fortunate enough to have a ready clientele. The top people in the graduating classes of the good schools are in demand and have little trouble obtaining jobs in the progressive offices. The more adventuresome do not hesitate to go overseas to the most enticing places where opportunity presents itself.

(Continued on page 162)

lifting
loads
for 60 years

SEDGWICK vertical transportation equipment has been specified by three generations of architects — to move loads from floor to floor—to make better use of space — to give one-floor convenience in dwellings. Sedgwick safety, dependability and economy are the result of six decades of technical improvement.

CORRESPONDENCE LIFTS
for high-speed transmission of letters, orders, other light loads. Also parcellifts for heavier loads.

SIDEWALK ELEVATORS
dependable transportation of loads to and from basement. Standard capacity up to 2500 lbs.

FREIGHT-WAITERS
for loads too heavy for dumb waiters, yet not heavy enough for expensive freight elevators.

DUMB WAITERS
for industry, hospitals, hotels, restaurants, schools, banks, stores, etc. Under-counter or regular.

RESIDENCE ELEVATORS
often recommended by physicians. A basic consideration in remodeling older dwellings.

STAIR-TRAVELORS
a safe, economical way to avoid stair climbing. Widely used in homes with straight stairways.

when there's more than one floor . . .
think of
Sedgwick

For free specification service and engineering recommendations, write:

SEDGWICK MACHINE WORKS
164 W. 15th ST., NEW YORK 11, N. Y.

Everything YOU COULD ASK FOR IN AN AUTOMATIC DOOR CONTROL

INVISIBLE DOR-MAN

Completely Automatic

The very instant a person steps on the specially designed carpet which leads through the doorway, the Invisible Dor-Man goes into action . . . opens the door quietly, quickly, automatically.

Completely Concealed

The Invisible Dor-Man can be applied to any standard stock door (glass, wood, or metal). No alterations are required—no devices in the head jamb. The operating units remain entirely "invisible."

Completely Noiseless

The Invisible Dor-Man can be installed for perfectly silent service. Not a whisper is heard as the door glides open and closed . . . mute testimony to quality design and construction.

all this—and OUTSTANDING ECONOMY too

THE IDEAL DOOR CONTROL FOR EVERY TYPE OF DOOR—EVERY TYPE OF BUILDING

HOSPITALS | STORES | RESTAURANTS | SCHOOLS | COMMERCIAL BUILDINGS

Dor-O-Matic concealed door controls for manual operation are available in sixteen models.

Send for your copy of the Invisible Dor-Man descriptive folder

DOR-O-MATIC

Division of

Republic Industries, Inc.

4446 North Knox Ave., Chicago 30, Illinois

out of school

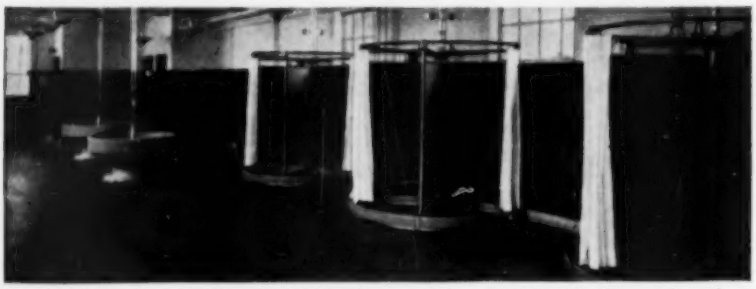
(Continued from page 160)

Students everywhere ask one about conditions in the States and in Canada. The less talented and enterprising middle-group seem to drift towards governmental bureaus, or become attached to the architectural establishments of corporations. There are those who go into some related but nonarchitectural fields, such as criticism, stage or television design, building contracting, etc.

For those that pursue careers in architecture in this country, the length of time that they will remain in an employe status varies with the individual, his abilities, and to some extent, of course, with his luck. The prizewinner of a large competition may find himself in practice overnight. A person who demonstrates his skills in a progressive government bureau, may be given a position of responsibility in a short time. For the competent plodder, the prospects are not so good. As already noted, the volume of building does not offer much opportunity for the people that are well trained but not brilliant. They would indeed be well advised to seek a career overseas in one of the many places that have need for capable assistants, as well as brilliant leaders.

With Bradleys like this, washing time is reduced. (Pre-Cast Stone Model)

And women as well as men enjoy the sanitary features. (Stainless Steel Model)



Complete the washing facilities with Bradley Showers as shown at right side above and you have

The Finest in Washroom Fixtures

American industry has found that Bradley Washfountains and Showers provide the maximum capacity while making savings in space, water consumption, piping connections and maintenance. With foot-control Bradley Washfountains eliminate faucets, so hands touch nothing but the clean running water while up to 10 are accommodated simultaneously. The bowls are self-flushing to prevent collection of contaminating water.

Multi-Stall Showers are furnished in 5- and 3-Stall Units — shipped partially assembled for quick installation.

During over 30 years Bradleys have become recognized as the finest and most sanitary washing fixtures available, — an aid to better human relations. BRADLEY WASHFOUNTAIN CO., 2277 W. Michigan Street, Milwaukee 1, Wisconsin.

Complete Catalog 5204 mailed on request.

BRADLEY washfountains and showers

Distributed Through Plumbing Wholesalers

notices

new addresses

JOHN LEON HOFFMAN, INC., Architects-Engineers-Landscape Architects, 519 Forsyth Bldg., Forsyth, Ga.

WILLIAM F. BIGONEY, JR., 921 Sunrise Lane, Atlantic & Sunrise Blvds., Fort Lauderdale, Fla.

LLOYD E. MELLOR, Architect, 516 Fifth Ave., New York 36, N. Y.

ROLAND M. AUBIN, Architectural Consultant and JOHN CADMAN, Design Consultant are members of the firm of WALTER J. DOUGLAS ASSOCIATES now removed to 1005 Farmington Ave., W. Hartford, Conn.

CLARK & ENERSEN, Architects, 1415 Sharp Bldg., Lincoln 8, Nebr.

FREDERICK STRITZEL, Architect, 4400 Dublin Rd., Columbus 14, Ohio.

KEMP, BUNCH, & JACKSON, Architects, 3rd Floor Richardson Bldg., 33 S. Hogan St., Jacksonville 2, Fla.

LOUIS G. REDSTONE, Architect, 10811 Puritan, Detroit, Mich.

CARL LOUIS MASTON, Architect, 8717 W. Third St., Los Angeles 48, Calif.

DONALD M. SCHOEPKE, Architect, 319 Third St., Wausau, Wis.

WILLIAM HOSKINS BROWN, Architect, 125 Tremont St., Boston, Mass.

CAUDILL, ROWLETT, SCOTT & ASSOCIATES, Architects and Engineers, 425 S. Main St., Bryan, Tex., and 1611 N. Broadway, Oklahoma City, Okla.

For recessed lighting in low-cost suspended ceilings

...use Day-Brite MOBILEX®

MOBILEX is a new idea in lighting—a recessed fluorescent lighting system designed especially for use with the newly developed grid-type suspended ceiling. MOBILEX is flexible. Use as single units . . . or create countless patterns of light. Available in 2′x2′ and 2′x4′ units.

MOBILEX is easy to install. Insert fixture into grid opening and let it rest on grid rails. No hangers. No suspension straps. Saves up to 50% in installation time. Get the full MOBILEX story. Write today for Bulletin OD-567.

"DECIDEDLY BETTER"
DAY-BRITE
Lighting Fixtures

Also available for use with other type ceilings.

Day-Brite Lighting, Inc., 5405 Bulwer Avenue, St. Louis 7, Missouri · In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

books received

Living Spaces. Edited by George Nelson. Interiors Library No. 1, Whitney Publications, Inc., 18 E. 50 St., New York 22, N. Y., 1952. 145 pp., illus., $7.50

Plastering Skill and Practice. Felicien Van Den Branden and Mark Knowles. American Technical Society, 848 E. 58 St., Chicago 37, Ill., 1953. 298 pp., illus., $4.90.

Form. A Balance Sheet of Mid-Twentieth-Century Trends in Design. Edited by Max Bill. Karl Werner AG., Basel, Switzerland, 1952. 168 pp., illus.

Housing in Denmark Since 1930. Esbjorn Hiort. Translated by Eve M. Wendt. The Architectural Press, London, Jul. Gjellerups Forlag, Copenhagen. Distributed by Museum Books, Inc., 48 E. 43 St., New York 17, N. Y., 1952. 112 pp., illus., $3.50.

FLOOR JOISTS TO BEAMS IS ONE OF MANY PLACES IN WHICH TO SPECIFY

TECO

Trip-L-Grip FRAMING ANCHORS

for stronger, more economical secondary connections in wood framing

DETAILED DRAWINGS of 12 popular uses of ***Trip-L-Grips*** are in the booklet, "Architects Aids for Better Homes and Other Wood Construction", along with design information and recommended safe working loads.

send for FREE copy TODAY!

TIMBER ENGINEERING COMPANY 1319 18th STREET, N.W. WASHINGTON 6, D. C.
CHICAGO • NEW ORLEANS • IN CANADA: J. E. GOODMAN SALES, LTD., TORONTO

Please send FREE copy of booklet, "Architects Aids for Better Homes and Other Wood Construction."

NAME

FIRM

STREET

CITY ZONE STATE

PA

man—from above

Our World from the Air. *An International survey of Man and His Environment. E. A. Gutkind. Introduction by Lewis Mumford. Doubleday & Company, Inc., Garden City, N. Y., 1952. $7.50.*

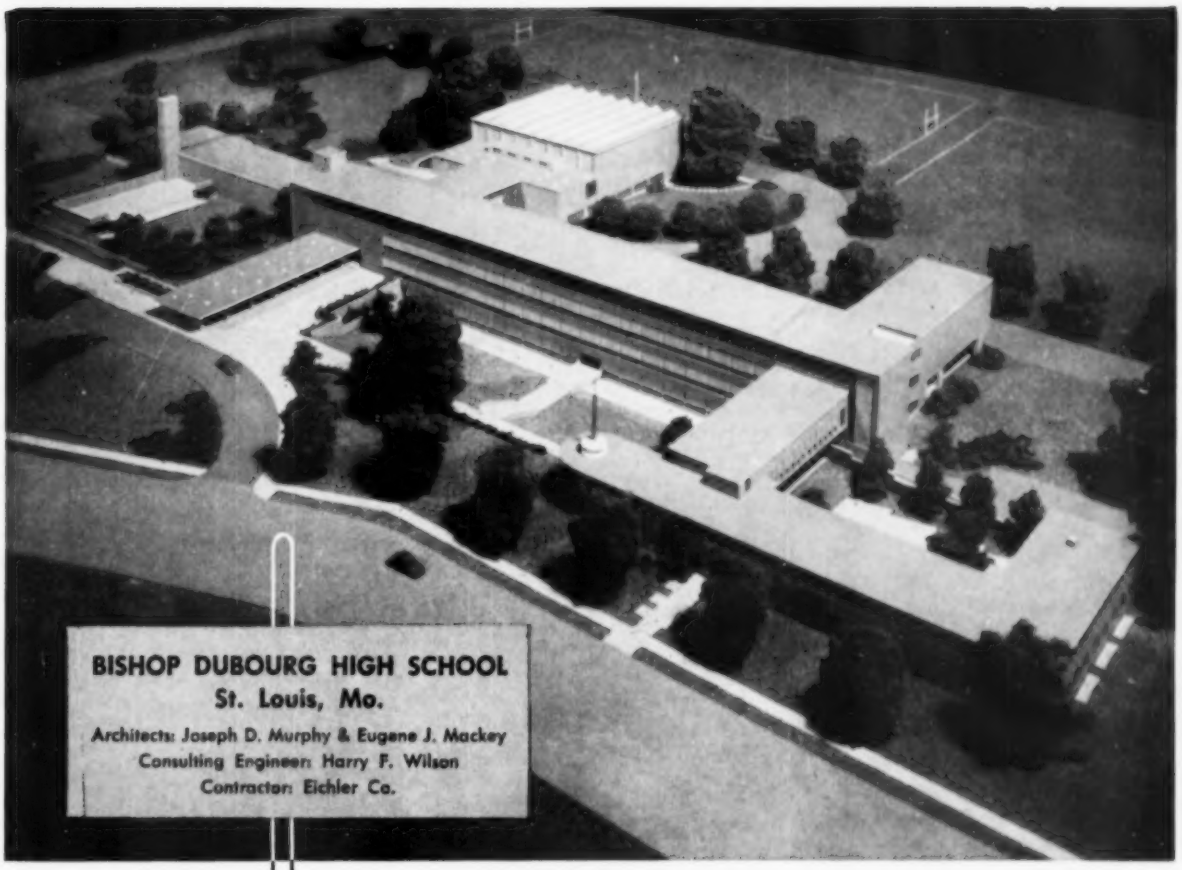
"Man in this moment of his history has emerged in greater supremacy over the forces of nature than has ever been dreamed of before. He has it in his power to solve quite easily the problems of material existence." These words of Winston Churchill come to one's mind when one peruses A. E. Gutkind's collection of over 400 photographs, most of them aerial.

It is not mere chance that the Baroque Period which was more space-conscious than any other, preferred the bird's-eye view to all other ways of visual recording. Although the artists then, during the 17th and 18th Centuries, did not yet know the airplane and the visual possibilities it was to offer, they were aware that no map, no normal straight perspective could convey spatial relations as well as the aerial view. Thus Gutkind's pictorial anthology employs the modern photographer's bird's-eye view to visualize the God-given morphology of the earth's surface as well as its man-made modifications through the striking juxtapositions of this book.

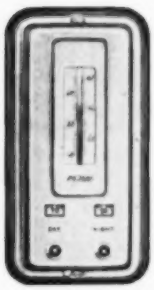
Throughout history agriculture and fortifications, irrigation and the development of natural resources, and last but not least human settlements from the Kaffir's kraal to the modern metropolis have modified topographical conditions and with it plant and animal life, even geological formations and geographical relations. The course of civilization shows how the need for shelter and protection, later for commerce and industry has created physical shapes which became tools and symbols alike.

City and regional planners will, of course, be most interested in the relationship of man and his environment as expressed in, and formed by, human settlements. To elucidate this problem, the author arranges his material follow-

(Continued on page 166)



BISHOP DUBOURG HIGH SCHOOL
St. Louis, Mo.
Architects: Joseph D. Murphy & Eugene J. Mackey
Consulting Engineer: Harry F. Wilson
Contractor: Eichler Co.



173 POWERS Day-Night Thermostats control 226 valves on Convectors and 69 Unit Ventilators.

Another Outstanding Modern High School

POWERS *Controlled*

Among the many economical features included in the unique four story $3,000,000 Bishop DuBourg High School is a Powers pneumatic system of temperature control.

Superiority of Powers Unit Ventilator Control here will not only provide greater comfort but will hold down operating costs. Its continuous dependable operation is due to the basic simplicity of Powers Low-Limit Airstream Thermostats. They need no auxiliary devices to supplement their accurate control of Unit Ventilator discharge temperatures. Their adjustable sensitivity gives precise control.

Powers control of unit ventilators and convectors results in greater comfort and fuel economy. With today's high fuel cost Powers temperature control is a more profitable investment than ever before. When problems of temperature control arise contact Powers nearest office. Our more than 60 years of experience may be helpful to you.

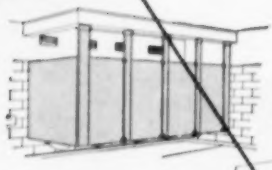
(67)

Established in 1891 • **THE POWERS REGULATOR COMPANY** • SKOKIE, ILL. • Offices in Over 50 Cities

FIAT®

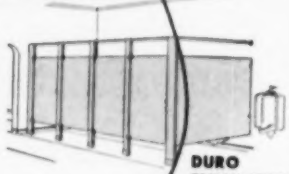
THE COMPLETE LINE OF

toilet compartments



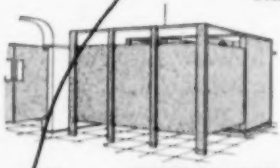
ARISTO CEILING HUNG

ARISTO FLOOR SUPPORTED



DURO FLUSH TYPE

PERMO PANEL TYPE



DRESSING COMPARTMENTS and SHOWERS

FIAT HOSPITAL CUBICLES

Satisfy your requirements! Please building owners and maintenance superintendents with FIAT quality compartments, and their beautiful, durable, easy-to-clean finishes.

Now, FIAT offers you a complete line, with adaptability to any type of installation. All FIAT compartments are made of the finest stretcher-leveled furniture steel, either cold rolled or bonderized-galvanized . . . finished with a baked-on prime coat and two coats of baked-on enamel. Available in white, choice of eight colors, or any two-color combination.

Check FIAT construction for the latest improvements. For greater strength, pilasters in the ARISTO line have *solid wood cores*. Other FIAT exclusive features are theft proof screws and concealed type fastenings. All chrome-plated hardware has been newly designed to complement the streamlined beauty of these compartments.

See SWEET'S $\frac{21b}{Fi}$ ARCHITECTURAL

. . . or write for CATALOG No. 530

MADE BY

FIAT®

FIRST IN SHOWERS

FIAT METAL MANUFACTURING COMPANY

THREE COMPLETE PLANTS—ECONOMY • CONVENIENCE • SERVICE

Long Island City 1 New York | Franklin Park, Ill. (Chicago Suburb) | Los Angeles 63 California

In Canada: Porcelain and Metal Products, Ltd., Orillia, Ontario

reviews

(Continued from page 164)

ing sociological viewpoints independent of historical sequence. This way surprising parallelisms are demonstrated over great intervals in time and space. As Lewis Mumford remarks in his excellent introduction, these pictures actually give us a sense of man's common origin, his common problems, his common destiny. It is the merit of Gutkind's original approach to make possible not only the visual experience of this kind, but also the obvious conclusions for city and regional planning of today. It depends on the reader, whether he will evaluate more the communications of facts of the latent invitation to improvement and socio-architectural action. In any case, he will be fascinated by this kaleidoscopic panorama of human habitations and he will be overwhelmed by the constant appearance of certain archetypes, separated from each other sometimes by thousands of years and thousands of miles. PAUL ZUCKER

detailing comes first

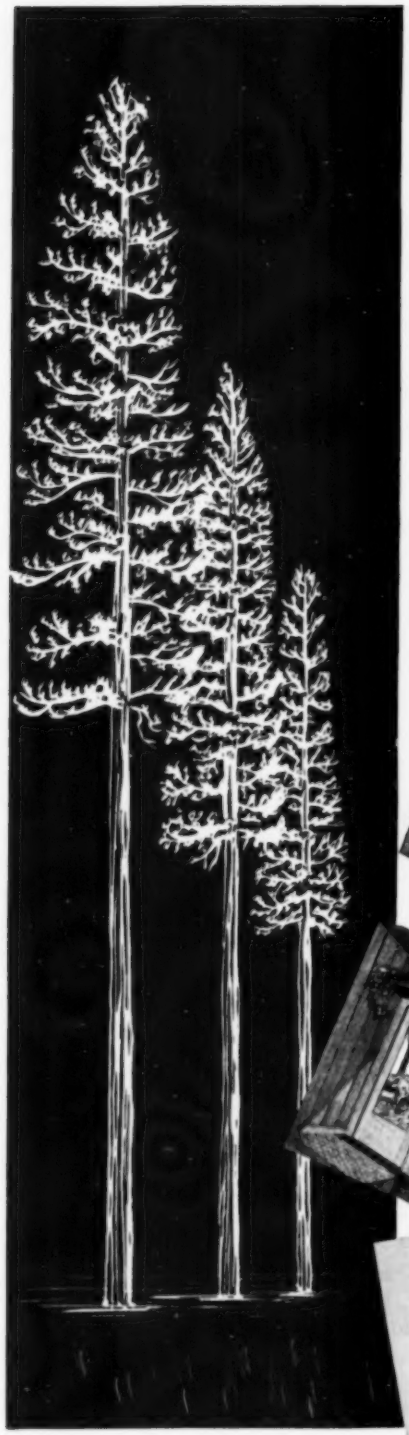
Architectural Detailing. *Caleb Hornbostel and Elmer A. Bennett. Reinhold Publishing Corp., 330 W. 42 St., New York 36, N. Y. 1952. 221 pp., illus., $12*

Caleb Hornbostel, in the foreword of this fine book, makes the following statement which justifies the need to our profession of this publication and, I hope, others as good to come: "Many buildings whose design concept in itself is excellent, fail completely in small ways to hold together. This is often purely the result of bad detailing—bad in that it is inadequately studied and thought-out, or worse, in that it is not thought-out at all. The whole of any building is obviously the sum of all its parts. This will always be true of architecture. Detailing is the study of parts: without it a good whole cannot be achieved."

With this premise, the authors proceed to present descriptive and graphic material so temptingly that the reader decides that he will henceforth devote more time to detailing and the hell with correspondence, payrolls, government regulation worries, conferences, etc.

An introduction by Richard J. Neutra,

(Continued on page 168)

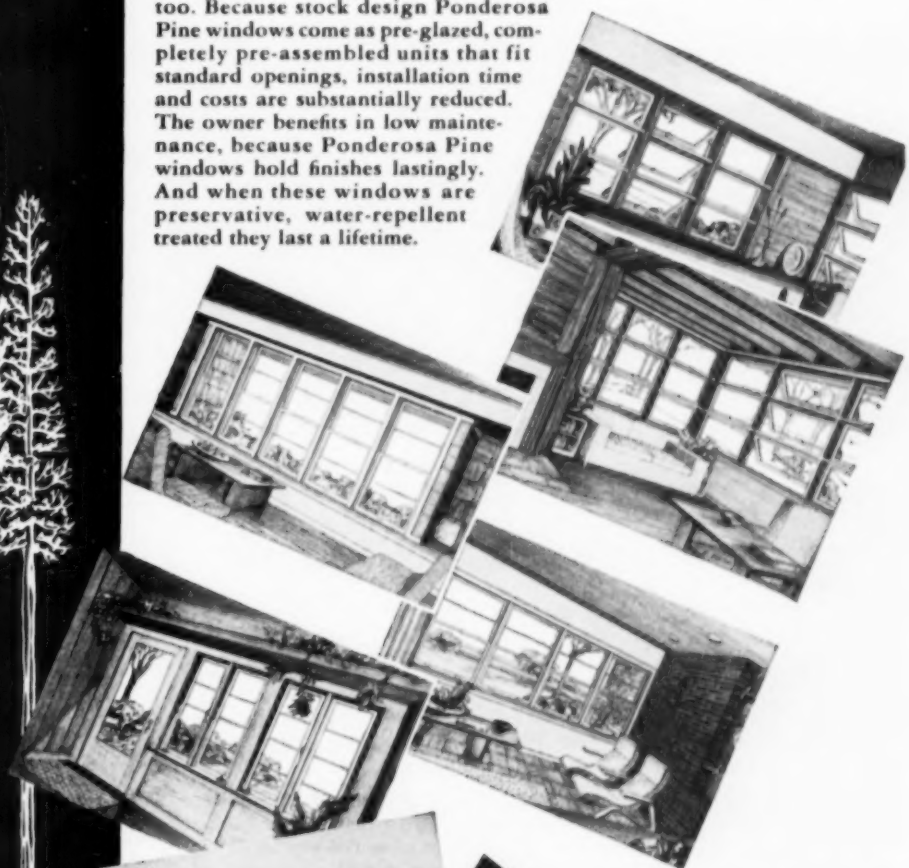


The Answer to Modern Window Selection

Grows on Trees

Awning windows—picture windows—newly-styled double-hung windows—casement windows—you have a whole "window world" to choose from with Ponderosa Pine Windows! The versatility and variety of these precision-made windows offer a solution for almost every fenestration problem.

There's an even more practical aspect, too. Because stock design Ponderosa Pine windows come as pre-glazed, completely pre-assembled units that fit standard openings, installation time and costs are substantially reduced. The owner benefits in low maintenance, because Ponderosa Pine windows hold finishes lastingly. And when these windows are preservative, water-repellent treated they last a lifetime.



Send for this Window Idea Book

You'll want this book of renderings, showing new ways to use Ponderosa Pine windows, for your "idea file." Send now for your free copy.

Ponderosa Pine Woodwork
Dept. WPA-5, 38 South Dearborn Street
Chicago 3, Illinois

Please send me free copy of Ponderosa Pine's idea book.

Name.....

Business or Profession.....

Address.....

City.....*Zone*.....*State*.....

Ponderosa Pine
WOODWORK

reviews

(Continued from page 166)

whose own inspired work is so keenly detailed, is particularly appropriate to this book. Neutra agrees with Hornbostel that good design is not effective without good detail, and adds the further provocative thought that "over-all design may be stimulated from the lowly quarters of detail."

The book is well organized. The details presented would have considerably less significance were it not for the technical discussion of the problems involved in the material of the specific chapters. This chapter dissertation, which gives the alternate approaches to each problem, then a separate detailed account of each graphic detail included in the book and its positive solution, is most helpful. Assuming that you are not going to find a detail that fits your problem, the technical discussion, the graphic detail, and the description of the reasons for this detail permit you to understand more clearly how you can effectively solve your problem.

It is important that we continue to emphasize detailing—it makes each person involved in the work of an office feel that he is contributing to better buildings and that the creative work did not stop with the approval of preliminaries.

We are appreciative to the authors and to the publisher for this book—and to Neutra for his fine introduction.

RICHARD L. AECK

history in structures

The Uses of the Past. *Herbert J. Muller. Oxford University Press, 114 Fifth Ave., New York 11, N. Y., 1952. 394 pp., $5.50*

It is rare that a general account of history suggests itself specifically to architects. The great historians of the past, including Spengler and Toynbee, have overlooked the substantiation of their theories in historical architecture. But Muller opens his pageant of our ancestors with a description of the "Hagia Sophia" in Constantinople, that greatest and oldest monument of Eastern Christendom, looking down both on Europe and Asia. The daring creation of a completely new architectural style and Justinian's exultant claim, "O, Solomon, I have outdone you!" set the scene for the deadly and creative contrast of spirituality and tyranny that has produced Western Civilization.

Muller never loses sight of the ultimate incarnation of historical essence in structure. He paints a vivid picture of the Greeks as a "mongrel people, cursed by disunity and strife, springing from envy and greed but also from the very ideals of freedom and individualism;" and he concludes that the very consciousness of these national shortcomings created a longing for formality, order, confinement, and purity that found its most perfect expression in the temple.

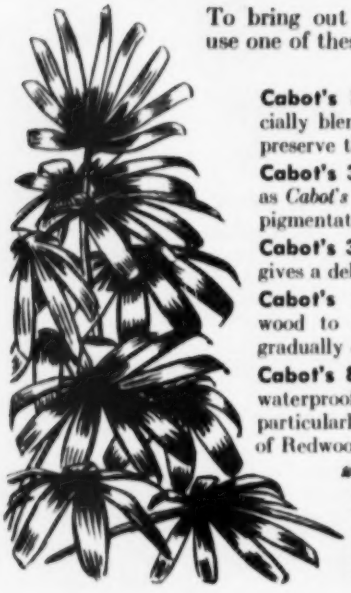
Where Roman architecture is visualization of order and discipline, the first conscious attempt of man to create a "humanistic architecture" with aqueducts, bath, arenas, highways, and bridges; the Gothic Age built cathedrals

(Continued on page 170)

Kauai Inn, Hawaiian Islands. Architect: Vladimir Ossipoff, Honolulu

Unique Effects with

CABOT'S FINISHES FOR REDWOOD



To bring out the full beauty of exterior Redwood, use one of these excellent preserving stains.

5 Attractive Finishes

Cabot's 325 California Redwood Stain — specially blended pigments in Creosote Oil capture and preserve the natural color of new Redwood.

Cabot's 3625 Sequoia Red Stain — similar color as *Cabot's California Redwood Stain* but with heavier pigmentation and greater hiding power.

Cabot's 351 Eucalyptus Gray Creosote Stain — gives a delicate greenish gray color to the wood.

Cabot's 241 Creosote Bleaching Oil — turns wood to a weathered driftwood gray, developing gradually over 6 months' exposure.

Cabot's 800 Clear Gloss Finish — a transparent waterproof finish producing a lustrous gloss . . . particularly designed to maintain the natural color of Redwood.

write today for folder "Redwood Staining" and Color Card showing Cabot's Creosote Shingle Stains and Cabot's Ranch House Hues.

SAMUEL CABOT INC.
528 Oliver Bldg., Boston 9, Mass.

air conditioning goes to college with Johnson *Automatic* temperature control

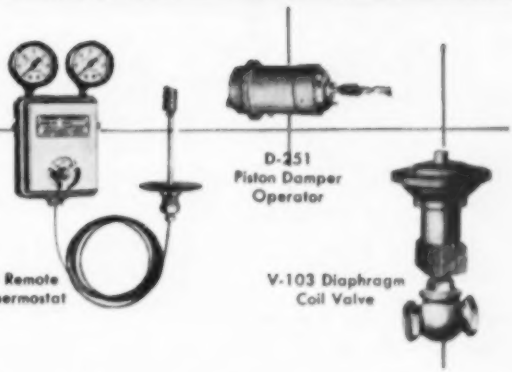
Business Administration, Agriculture and Administrative Offices Building, Arizona State College, Tempe.
Edward L. Varney Associates, architects & engineers, Phoenix;
Headman, Ferguson & Carrollo, mechanical engineers, Phoenix

T-432
Heating-Cooling
Room-Thermostat

AUDITORIUM

V-306
Modulating Attachment
for Thermostatic
Expansion Valve

EXECUTIVE OFFICE



Designed to accommodate three separate functions in a single structure, the Business Administration, Agriculture and Administrative Offices Building at Arizona State College, Tempe, Arizona, comprises a two-story wing for college administration and a three-story wing for the Schools of Business Administration and of Agriculture.

Completely air conditioned, the building is divided into 19 zones, serving classrooms, laboratories, office areas, lecture halls and auditorium. A Johnson Heating-Cooling Room Thermostat controls a steam coil valve for heating and a modulating attachment on the thermostatic expansion valve for cooling, in each of the individual air conditioning systems. Each of the 19 zones is equipped with Johnson dampers and damper operators for the control of outdoor and return air.

Whether the outdoor temperature is a sizzling 100° or a frosty 32°, Johnson Control *automatically* maintains each section of the building at optimum temperatures, enabling students and college personnel to perform their duties at top efficiency. Equally significant, Johnson Control automatically provides this all-weather comfort and convenience **at a decided saving in operating costs.**

Perhaps your buildings present temperature control problems! Let a Johnson engineer from a nearby branch office explain the desirable features and savings which a Johnson-engineered Control System will bring you. Often, a Johnson System will pay for itself in fuel savings alone. JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin. Direct Branch Offices in Principal Cities.

JOHNSON *Automatic Temperature and Air Conditioning* **CONTROL**

MANUFACTURE • APPLICATION • INSTALLATION • SINCE 1885

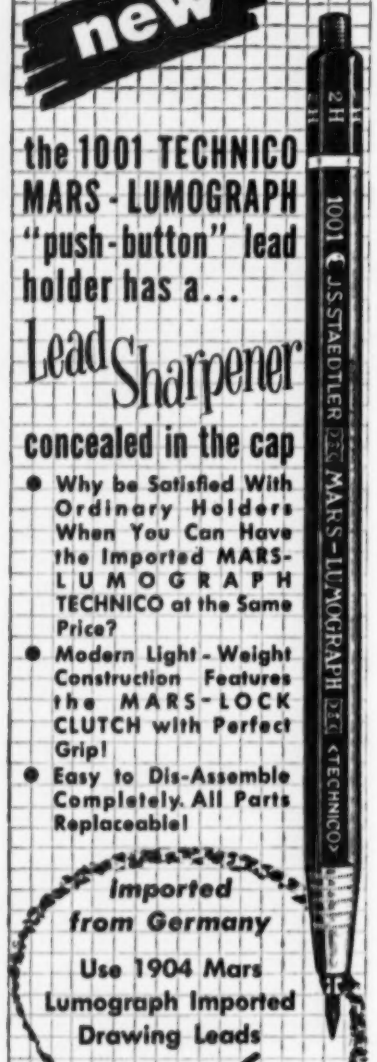
brand new

the 1001 TECHNICO MARS-LUMOGRAPH "push-button" lead holder has a...

Lead Sharpener

concealed in the cap

- Why be Satisfied With Ordinary Holders When You Can Have the Imported MARS-LUMOGRAPH TECHNICO at the Same Price?
- Modern Light-Weight Construction Features the MARS-LOCK CLUTCH with Perfect Grip!
- Easy to Dis-Assemble Completely. All Parts Replaceable!



Imported from Germany

Use 1904 Mars Lumograph Imported Drawing Leads

Sold at All Leading Drawing Material Dealers and Blue Printers

Write Today for Detailed Literature on the 1001 TECHNICO

J.S. STAEDTLER, INC.
53-55 Worth Street, New York 13, N. Y.
STAEDTLER SINCE 1662

reviews

(Continued from page 168)

as bulwarks against the "basic contradiction" between heaven and earth. (Because "they could never really lose themselves in God or find themselves on earth" they created the dusky world of the vaulted nave and the multi-colored window.) The outrageous optimism of the Renaissance proclaiming a lasting "synthesis of Greek excellence and Christian piety" gives deep meaning to Bramante's Tempietto: but it also reminds us of the significance of Protestant meeting houses, which signify that "Calvin did for the bourgeoisie in the 16th Century what Marx did for the proletariat in the 10th —he declared their superiority to the existing social order, made them the elect of God, and gave them a heart and mind to realize their great destiny of inheriting the earth."

In his human and lucid conclusion, Muller finds consolation from apparent chaos in the fact that "Time, the great destroyer, is also the great preserver. It has preserved much more than we can ever be conscious of—the immense accumulation of products, skills, styles, customs, institutions, and ideas. . . . But most precious are the works that man has consciously preserved, in defiance of time . . . the ultimate source of inspiration . . . to live, because life is an end in itself. The going is the goal."

The books avoids the dry, tiresome style of most historians. It is permeated by an appreciation of anecdote and human comedy, and lightened by a highly refreshing sense of humor.

SIBYL MOHOLY-NAGY

portrait of an industry

Stabilizing Construction: The Record and Potential. *Miles L. Colean and Robinson Newcomb. McGraw-Hill Book Co., Inc., 330 W. 42 St., New York 36, N. Y., 1952. 340 pp., $6*

A lot of well-deserved good things are being said about this book. Text *and* appendix are highly interesting reading, and this is proof of how well the economist-authors know the professional men of the construction industry.

Everyone who *thinks* he knows the in-

(Continued on page 178)

Simpson
ACOUSTICAL CONTRACTORS

ALABAMA
Badham Insulation Co., Inc., Birmingham
Stokes Interiors, Inc., Mobile
ARIZONA
Asbestos Engineering & Supply Co., Phoenix
Hall Insulation & Tile Co., Tucson
ARKANSAS
National Builders' Supply, Inc., Little Rock
CALIFORNIA
Coast Insulating Products, Los Angeles and San Diego
Cramer Company, San Francisco and Fresno
COLORADO
Construction Specialties Co., Denver
CONNECTICUT
W. T. Roberts Construction Co., East Hartford
DISTRICT OF COLUMBIA
Kane Acoustical Co., Washington
GEORGIA
Dumas and Searl, Inc., Atlanta
ILLINOIS
General Acoustics Co., Chicago
Melvin R. Murdy, Moline
INDIANA
The Baldus Co., Inc., Fort Wayne
E. F. Marburger & Son, Inc., Indianapolis
IOWA
Kelley Asbestos Products Co., Sioux City
KANSAS
Kelley Asbestos Products Co., Wichita
KENTUCKY
Atlas Plaster & Supply Co., Louisville
MASSACHUSETTS
W. T. Roberts Construction Co., Cambridge
MINNESOTA
Dale Tile Company, Minneapolis
MISSISSIPPI
Stokes Interiors, Inc., Jackson
MISSOURI
Kelley Asbestos Products Co., Kansas City
Hamilton Company, Inc., St. Louis
NEBRASKA
Kelley Asbestos Products Co., Omaha
NEW JERSEY
Kane Acoustical Co., Fairview
NEW MEXICO
Asbestos Engineering & Supply Co., Albuquerque
NEW YORK
Robert J. Harder, Inc., Lynbrook, L. I.
Kane Acoustical Co., Inc., New York
Davis-Fetch & Co., Inc., Buffalo, Rochester and Jamestown
Davis Acoustical Corp., Albany
NORTH CAROLINA
Bost Building Equipment Co., Charlotte
OKLAHOMA
Harold C. Parker & Co., Inc., Oklahoma City
Kelley Asbestos Products Co., Tulsa
OHIO
The Mid-West Acoustical & Supply Co., Cleveland, Akron, Columbus, Dayton, Springfield and Toledo
OREGON
Acoustics Northwest, Inc., Portland
R. L. Elfstrom Co., Salem
PENNSYLVANIA
Jones Sound Conditioning, Inc., Ardmore
TENNESSEE
John Beretta Tile Co., Inc., Knoxville
John A. Denie's Sons Co., Memphis
The Workman Co., Inc., Nashville
TEXAS
Blue Diamond Company, Dallas
Otis Massey Co., Ltd., Houston
Builder's Service Co., Fort Worth
UTAH
Utah Pioneer Corporation, Salt Lake City
VIRGINIA
Manson-Smith Co., Inc., Richmond
WASHINGTON
Elliott Bay Lumber Co., Seattle
WISCONSIN
Building Service, Inc., Milwaukee
CANADA
Albion Lumber & Millwork Co., Ltd., Vancouver, B. C.
Hancock Lumber Limited, Edmonton, Alberta

RICH, NATURAL *Beauty*

Simpson

QUALITY SINCE 1890

FISSURED TILE

A MINERAL ACOUSTICAL MATERIAL

SIMPSON FISSURED TILE, the result of many months of painstaking development by our research and engineering staff, is proudly announced as an important new member of the Simpson family of highest-quality acoustical products. Here is an efficient noise-quieting material that provides two big plus features—incombustibility, and a luxurious finishing touch for interiors.

To become more fully acquainted with Simpson Fissured Tile, architects are invited to receive a full size sample together with literature which more completely describes this beautiful material. Write on your letterhead to

SIMPSON LOGGING COMPANY • ACOUSTICAL DIVISION
1065 Stuart Building, Seattle 1, Washington

EACH SIMPSON fissured tile is individual in pattern, and the degree of fissuring may be expected to vary considerably from tile to tile. This variation enhances the beauty of the finished installation. The natural fissuring complements any type of interior, traditional or contemporary. It has a soft white finish that combines beauty with high light reflection. It is readily cleaned or repainted when necessary. Either square or beveled edges are available in $^{11}/_{16}$" and $^{13}/_{16}$" thicknesses.

Incombustible

Since it cannot burn, Simpson Fissured Tile meets all code requirements as an incombustible interior finish material.

High Sound Absorption

Made of a special mineral wool, Simpson Fissured Tile is a highly efficient acoustical material combining incombustibility, beauty and permanence.

QUIET IS NOT A LUXURY—BUT SIMPSON FISSURED TILE MAKES IT LOOK LUXURIOUS

Simpson Acoustical Products include the following: PERFORATED FIBER ACOUSTICAL TILE, METAL ACOUSTICAL UNITS, PERFORATED HARDBOARD, PERFORATED CEMENT ASBESTOS BOARD, FISSURED MINERAL TILE

May it always be said of you...
"THE ARCHITECT KNEW BEST"

ALWAYS SPECIFY

WRIGHT RUBBER TILE

Your judgment in specifying one floor over another must ultimately stand the test of customer satisfaction.

Why gamble your own good reputation? You can specify Wright Rubber Tile with the confidence that here is the world's finest floor covering . . . made to stand 100 years of normal wear.

This is the miracle flooring you've been hearing about. Being non-porous, it repels dirt. Being highly resilient, it resists damage and absorbs sound. Being uniform in color and quality from top to bottom, it has no surface veneer to wear off, and so stays smooth and beautiful throughout its long life.

Economical—Because of its exceptional durability, cost per year of Wright Rubber Tile is less even than inferior floor covering.

Versatile—Because of its high resistance to damage, Wright Rubber Tile is ideal for all types of construction, industrial, commercial and residential. Twenty-three decorator colors to choose from.

Easily Maintained—All floors require maintenance, but Wright Rubber Tile requires *less* than any other.

We invite you to compare Wright Rubber Tile with any floor covering on the market. Send for a free sample. Then specify Wright Rubber Tile with complete confidence.

WRIGHT MANUFACTURING CO.
5205 Post Oak Rd., Houston 5, Texas

WRIGHT RUBBER TILE

406

FLOORS OF DISTINCTION

- WRIGHTEX—Soft Rubber Tile
- WRIGHTFLOR—Hard Surface Rubber Tile
- WRIGHT-ON-TOP Compression Cove Base

reviews

(Continued from page 170)

dustry should read this book. The first dividend for the reader is the clearest and sharpest picture ever drawn of the industry, its product, and circumstances affecting both. The industry is defined within rather strict limits, including only "professional designing organizations, general contractors, special trade contractors, and workmen whose principal business is construction."

The second dividend may be one of two sharply different reactions to the ideas set forth in this generally optimistic study. The reaction begins as the authors develop the premise that the construction industry is essentially "a service industry," providing a costly product in response to variable demands beyond the industry's control.

In the course of showing why "this hazardous business" is plagued with violent changes, the authors make some very interesting admissions and some forthright accusations. They are frankest in regard to restraint by unions, lenders, codes, and the "trades" (suppliers). Chapter 7 packs some hard wallops.

The industry's end product (buildings in particular) cause some of the troubles because of complexity and proneness to obsolescence. Land, labor, and finance are factors beyond control. War is the cataclysmic unstabilizer.

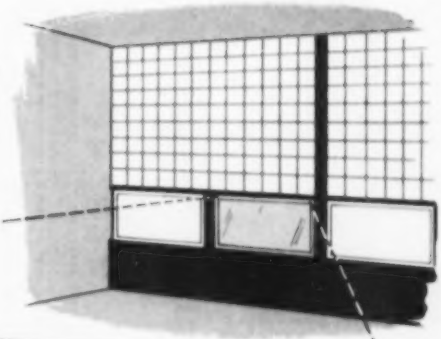
As economists, the authors seem to take much consolation from the fact that the violent changes in the unstable construction industry are not *cyclical*. They demonstrate time and again the dearth and need for statistics for better understanding of this major part of the country's economy. And finally, as economists, they make some rather brief suggestions of economic measures (none especially surprising) as contracyclical influences to effect some stabilization in the market.

So there it is. If you please, this penetrating analysis is a great justification for a beloved industry that has always been a victim of circumstances—an industry that "took form" around these circumstances with remarkable ingenuity.

But surely there will be others who will not fail to see in this book a challenge to

(Continued on page 174)

Brand new!



DUSKLITE

. . . a special glass for vision strips used with PC Glass Block panels

Most everyone agrees that panels of PC Functional Glass Blocks provide the ultimate in natural lighting for schools, offices and other types of buildings. It has been common practice for many architects to use them in combination with clear-glazed vision areas because people usually want to see out. But shading devices commonly used to overcome the high brightness levels through these areas blocked the very vision the architect was trying to provide.

Now, however, Dusklite, a completely new laminated safety glass developed and manufactured by Pittsburgh Plate Glass Company, provides the brightness control needed for these areas *without* blocking the vision. Thus, the need for expensive, high-maintenance blinds, shades or louvers is eliminated.

Dusklite is neutral grey with a visible light transmittance of about 25%. It is available in 7/32" thickness and in sizes up to 15 square feet. Color perception through it is excellent.

If you send the coupon, we'll be glad to tell you how PC Glass Block panels combined with Dusklite vision strips can improve daylighting and save money.

Pittsburgh Corning Corporation

PITTSBURGH 22, PA.

PITTSBURGH PC CORNING ®

Pittsburgh Corning Corporation
Dept. AC-53, Pittsburgh 22, Pa.

Please tell me more about Dusklite and its use with PC Functional Glass Block Panels.

Name ..... Title .....

Firm .....

Address .....

City ..... Zone ... State .....

Experience proves. . .

REVOLVING DOORS CUT REDECORATING COSTS!

• Revolving doors—"always open, always closed" keep out the dirt, the soot, the grime that cause frequent cleaning, painting and redecorating costs.

But cleaner interiors achieved at less cost are only one of the advantages of revolving doors. Unhealthful, uncomfortable drafts stop at the entrance. Heating and cooling costs, too, are slashed. Traffic flow is expedited. And high-revenue floor space becomes usable right up to the door, to minimize walkouts.

Not only in restaurants, but in many other kinds of establishments, it is significant that more than half of all revolving door installations are replacements for swing doors. You can save money for your clients by including revolving doors in your original specifications. See our catalog in Sweet's for complete data.

MR. ARCHITECT—Take this ENTRANCE examination about the doors you specify for your clients

YES	NO	
☐	☐	Is the entrance draft-free, avoiding discomfort for customers and employees?
☐	☐	Does the entrance prevent wasteful heat loss, on cold blustery days?
☐	☐	With air conditioning, does the entrance keep out heat, to minimize operating costs?
☐	☐	Does the entrance assure orderly flow and prevent traffic jams during rush hours?
☐	☐	Is the floor space completely usable, right up to the entrance?
☐	☐	Does the entrance keep out dust and dirt, to reduce frequency of redecorating and cleaning, and merchandise spoilage in sales areas?

If your answer is NO to any of these questions, you owe it to yourself to investigate the profit possibilities of a revolving door entrance.

LONGEST SERVICE — LEAST SERVICING

REVOLVING DOORS

INTERNATIONAL-VAN KANNEL

1960 EDGAR STREET — EVANSVILLE 7, IND.

IN CANADA—
International-Van Kannel Doors are available through Eastern Steel Products, Ltd., Toronto and Montreal.

reviews

(Continued from page 172)

the industry rather than mere justification for its shortcomings. "No co-ordination" —"progress only towards complexity"— "no single responsibility for end product" —"victim of its product."

These admissions seem to justify charts and statistics for the economist, but these are admissions that should challenge the imagination of any reader from the ranks of building industry management or technology.

WILLIAM H. SCHEICK
Executive Director
Building Research Advisory Board

colonial embellishments

American Decorative Wall Painting. *Nina Fletcher Little. Studio Crowell, 432 Fourth Ave., New York 16, N. Y., 1952. 145 pp., illus., $10*

Although the author modestly disclaims that her efforts comprise a complete or final survey of all wall painting in this country, this book will undoubtedly become recognized as a standard authority on the subject. Curiously enough, too few students of Americana have bothered to investigate how our ancestors decorated the walls and woodwork of their homes. This story is therefore somewhat of a revelation as to content and in its comprehensiveness for, as Marshall B. Davidson of the Metropolitan Museum of Art states in his foreword: "I know of no one more tireless, no one who has contributed more through her field work and research than Nina Fletcher Little. The following pages represent only a modest part of her total findings about old houses and old painters and what they have to tell us. But on the particular subject of decorative painting in early American structures what follows is, in itself, a sizeable and important contribution." This tribute is all the more interesting since the author is an amateur—but actually only a self-styled amateur, for she has established for herself a very special position in the field of American architecture, art, and decoration and is constantly consulted by museums and collectors.

The hallmark of this book, it will be at once noted, is its thoroughness. Nina Little has traveled far and wide over the

(Continued on page 176)

New • Practical • Time-Saving

the MODERN format long awaited by architects, draftsmen, specification writers!

streamlined

SPECIFICATIONS STANDARDS VOLUME I ARCHITECTURAL

by Ben John Small, A.I.A.

Here is the most valuable time-saver ever published for the architectural specifying team! Yes, here, written in a simplified streamlined manner, are *all* the specifications necessary for the contract, site work, carpentry and other structural work, masonry, weather protection, metal work and finishing of a building!

These streamlined specifications, several of which were originally published as an extremely popular regular feature in *Progressive Architecture*, are now available to you in three handy, easy-to-detach pads of over 1,000 pages. For working convenience, the specifications are grouped into 63 alphabetically arranged sections and are specially numbered both for quick reference or for separate filing either by individual sections or entire categories.

With the text accurately reproduced in double-spaced elite typewriter type and printed on only *one* side of the sheet, editing to fit any project requirement becomes astonishingly easy! Specifications may be photostated, or quickly inserted into a typewriter, simply by detaching the pages from the pad.

Nowhere else will you find these amazing time-saving specifications in such easy-to-use form! All architects, draftsmen, engineers, specification writers—everyone in the building field who has to prepare, distribute and use specifications will greatly welcome this valuable working tool!

1952, 1,000 printed sheets in three 8½" x 11" pads, sturdily boxed, $20.00

Use this coupon for free examination

REINHOLD BOOK DIVISION
Dept. M-515, 330 West 42nd St., New York 36, N. Y.

Please send me a copy of Small's STREAMLINED SPECIFICATIONS STANDARDS—Vol. I @ $20.00.

☐ Remittance enclosed.
☐ Send on free 10-day examination.

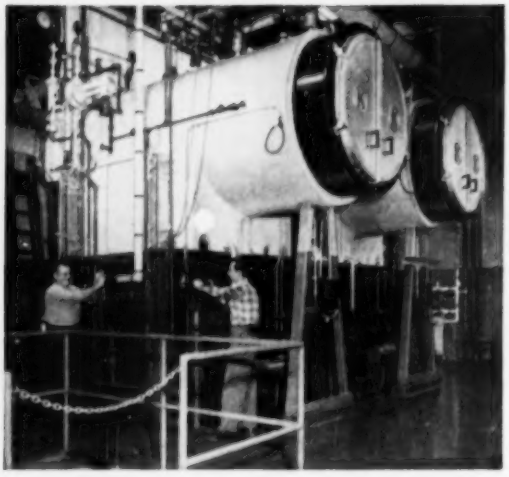
NAME .....
(Please print)

ADDRESS .....

CITY .....ZONE.....STATE.....

NOTE: You save postage and delivery charges by sending payment with order. Same return privilege guaranteed. Include 3% sales tax on N.Y.C. orders.

MORE ENGINEERING
MORE MATERIAL
MORE EXPERIENCE
MAKE THE DIFFERENCE



KEWANEE
STEEL BOILERS

Set a Kewanee alongside other boilers and even a quick look shows their extra ruggedness, finely finished castings and other evidences of a high quality product. Then look inside! Check the specifications, measurements, size of fire chamber, area of heating surface and one finds many other differences. More engineering, more material, more labor and more experience go int every Kewanee . . . whether for heating, power or proces steam . . . so owners get more from them.

With experienced engineers and mechanics on their staff, a great air line knows mechanical equipment. So it means much when concerns such as Northwest Air Lines install Kewanee Boilers in an important building.

NORTHWEST AIRLINES BUILDING
International Airport
Seattle-Tacoma, Wash.
Designed and Engineered by
AUSTIN COMPANY
2 Kewanee Heavy-Duty Boilers,
Oil-Fired from the rear by
W. E. BEGGS, INC., Seattle

KEWANEE-ROSS CORPORATION
Division of American Radiator & Standard Sanitary Corporation
KEWANEE, ILLINOIS

reviews

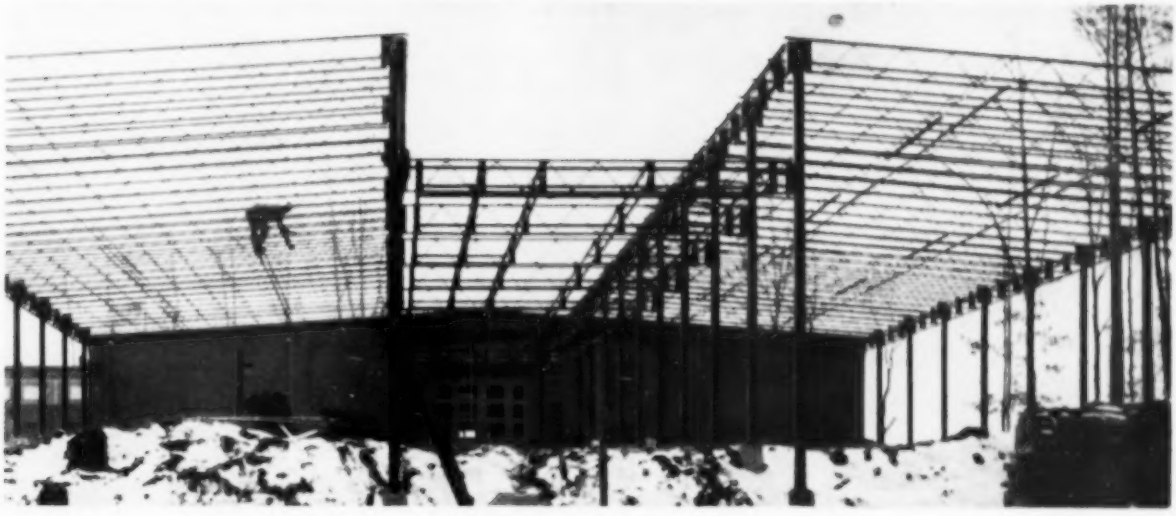
(Continued from page 174)

New England countryside, scraping woodwork in old houses, peeling off layer after layer of wallpaper and uncovering stenciling and painting that brightened the wall of early houses. The first part of the book is devoted to painted woodwork, with interesting information on early exterior painting and how the paints were made, interior painting in the early 18th Century, graining and marbleizing and architectural japanning. The author then takes up the pictorial decoration of interior woodwork with enlightening chapters on the overmantel landscapes found in houses all the way from Maine, New Hampshire, and Vermont to the Boston vicinity and other parts of Massachusetts, where the largest number of early examples were found, and on to Southern New England and other states. Quite naturally, the vogue for pictorial overmantles and other wall embellishments came to the Colonies from England and some English artists were brought over here, particularly to the South. In New England, however, it was the sundry "transient persons," as the author calls them, who were responsible for the existing decoration. Some of the artists were known and the scope of their work can be traced; many others were unknown itinerants and simply went about painting and decorating wherever they found work to do. It is significant, however, that even though the talents of these painters might not have affected the main course of American art, there is sufficient evidence, as set forth in this book, that landscape painting for interiors was in common practice well back in the 18th Century.

In the second part of the book Nina Little takes up the matter of decoration on plaster walls and here, too, what she has to say is revealing and shows the thoroughness of her research activities. From the simplest type of painting in oil and water colors, she has investigated the various free-hand designs in repeat patterns, stenciling and group borders, figure and subject pieces and the scenic panoramas, or murals, much in vogue in the 19th Century. No phase of plaster wall decoration has been untouched and the reader will

(Continued on page 181)

HOW V-LOK Frames A Modern School



All the Advantages of SIMPLIFIED FACTORY DESIGN are Now Available for the School Architect

INTERLOCKING STRUCTURAL MEMBERS SPEED ERECTION

The trend to one-story buildings in school architecture prompts Macomber to present the advantages of industrial steel framing to school construction.

This is accomplished by applying the Macomber V-LOK system of industrial framing with all of its advantages in simplicity and erection speed.

You can visualize from the V-LOK steel school framing above the complete freedom for architectural finish, mechanical layouts and floor arrangement.

With this system, the building is under roof in a matter of days and all trades can work with a minimum of interference to rapid completion.

The above school is detailed in our V-LOK catalog. Send for it and utilize the economy of industrial framing in your next school jobs.

STANDARDIZED STEEL BUILDING PRODUCTS

MACOMBER • INCORPORATED

CANTON, OHIO

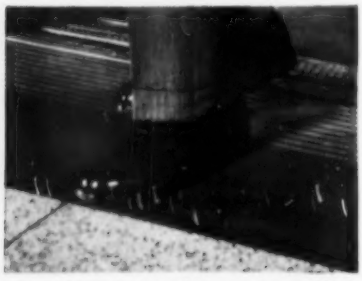
V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK

KENFLEX
VINYL TILE

combines every flooring advantage in one beautiful floor

PROOF THAT KENFLEX IS A TRULY SUPERIOR FLOOR

Thirteen years ago a test installation of KenFlex was made at the entrance to the elevators in New York's Union Carbon and Carbide Building.



Over 13,000,000 people have since walked over this KenFlex Floor and even with this heavy foot traffic, the KenFlex installation is still as smooth and attractive as the day it was installed.

New KenFlex is the result of years of experimenting and development by the Kentile, Inc. laboratories. It is made of asbestos, vinyl resins, plasticizers and selected color pigments . . . resulting in a long-lasting floor that is ideal for any use in any room. KenFlex increases the value of homes . . . the appeal of stores and shops . . . with its superior beauty and greater wearability. KenFlex is extremely resistant to grease . . . can't be harmed or stained by fruits and most other acids, inks and cleaning fluids. It is extremely easy and economical to maintain . . . never needs scrubbing . . . doesn't require waxing unless an extra-high gloss is desired.

Specifications and Technical Data

INSTALLATION

KenFlex can be installed over any smooth, firm interior surface . . . wood, plywood, radiant heated concrete slabs, even over concrete in contact with the earth . . . on or below grade.

THICKNESSES

Laboratory and on-floor usage tests have *proven* that vinyl has great durability and wear resistance. Therefore, standard gauge (1/16") is recommended for normal residential and commercial uses. Where exceptionally heavy traffic is expected, 1/8" gauge is recommended.

INSTALLED PRICES

Prices range from 40c per sq. ft. to 65c per sq. ft. depending on which of the thicknesses is chosen—for minimum area of 1000 square feet over cement underfloor.

SIZE

Standard tile size is 9" x 9". Also available are 9" x 9" decorative ThemeTile and 1" x 24" Feature Strip.

For more information on KenFlex consult the KENTILE, INC. *Flooring Contractor, a trained and experienced expert, fully qualified to aid you in choosing the proper floor for every residential, commercial and industrial installation. For his name and address, look under* FLOORS *in your Classified Phone Directory.*

KENTILE, INC., 58 Second Ave., Brooklyn 15, New York • 350 Fifth Ave., New York 1, N. Y. • 705 Architects Bldg., 17th and Sansom Sts., Philadelphia 3, Pa. • 1211 NBC Bldg., Cleveland 14, Ohio • 900 Peachtree St. N.E., Atlanta 5, Ga. • 2020 Walnut St., Kansas City 8, Missouri • 4532 South Kolin Ave., Chicago 32, Illinois • 4501 Santa Fe Ave., Los Angeles 58, Calif. • 452 Statler Bldg., Boston 16, Mass.

Colorful as a peacock

New KenFlex colors have a brighter beauty . . . won't dim, fade or wear off . . . colors go clear through to the back of each durable tile.

At left, KenFlex sets the inviting color scheme of a restaurant with tile of Desert Sand, Bikini Blue and Star ThemeTile.

Below, a KenFlex Floor unifies a kitchen-dinette area. The glowing KenFlex colors are Lime Green, Shannon Green and White Ivy.

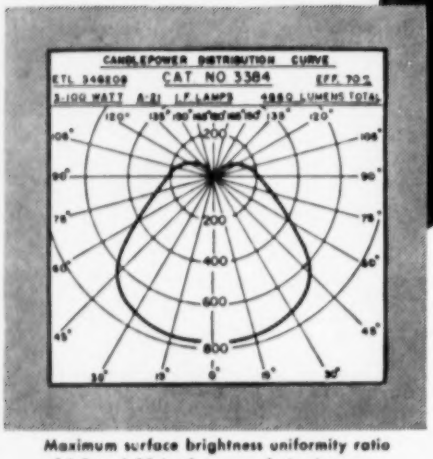
THE PRODUCERS' COUNCIL

KENFLEX
VINYL TILE
TRADE MARK
By the makers of Kentile

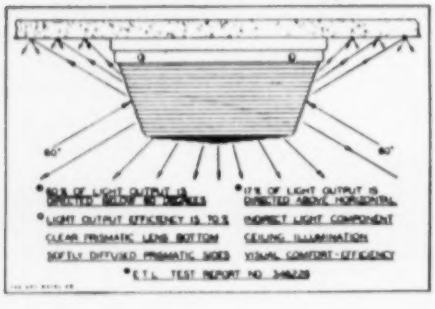
***KENTILE, INC.**, Makers of:*
KENTILE ASPHALT TILE
SPECIAL (greaseproof) KENTILE
KENCORK FLOORS and WALLS
KENRUBBER TILE FLOORS
KENFLEX VINYL TILE

lens lighting in drum form

PATENT PENDING



Maximum surface brightness uniformity ratio of 1.2 to 1.00 in the normal viewing zone.


60°
60°
82% OF LIGHT OUTPUT IS DIRECTED BELOW 90° HORIZONTAL
17% OF LIGHT OUTPUT IS DIRECTED ABOVE HORIZONTAL
LIGHT OUTPUT EFFICIENCY IS 70%
INDIRECT LIGHT COMPONENT
CLEAR PRISMATIC LENS BOTTOM
CEILING ILLUMINATION
SOFTLY DIFFUSED PRISMATIC SIDES
VISUAL COMFORT-EFFICIENCY
ETL TEST REPORT NO 348208

Specifically designed for multiple horizontal lamp operation, the clear lens bottom provides a widespread direct light distribution with no color distortion of the lamp light. The prisms on the sloping sides elevate light to the ceiling, adding the quality of indirect lighting. Available in two sizes.

The Lens Drum is but one of many advanced lighting elements in the new ART METAL catalog. Write for a copy.

THE ART METAL COMPANY

CLEVELAND 3, OHIO

Manufacturers of Engineered Incandescent Lighting

reviews

(Continued from page 176)

be tremendously impressed to learn that there was such a wealth of it in early American homes.

The scholarly aspect of this work is further evidenced by the biographical list of painters who executed panels, chimneyboards and walls, as well as by the exhaustive and selective bibliography and the index which supplement the book. However much one may regard *American Decorative Wall Painting* as an authoritative treatise and a splendid reference work, it makes for fascinating reading. Nina Little had exciting adventures in the course of her investigations and by her vigorous and clear style of writing, one is able to share those adventures and her enthusiasm for her subject. The book, both letterpress and illustrations, is printed on heavy calendered paper which not only enhances its attractiveness but shows the many fine photographs—six of them are in full color—to the best advantage.

FRANK WRENSCH

research results favor perimeter heating

Comparative Performances of Two Warm-Air Perimeter Systems and Three Convection Systems. *Morris E. Childs, Robert W. Roose, Herbert T. Gilkey, and Seichi Konzo. University of Illinois, Urbana, Ill., 1952. 56 pp., illus., 60¢*

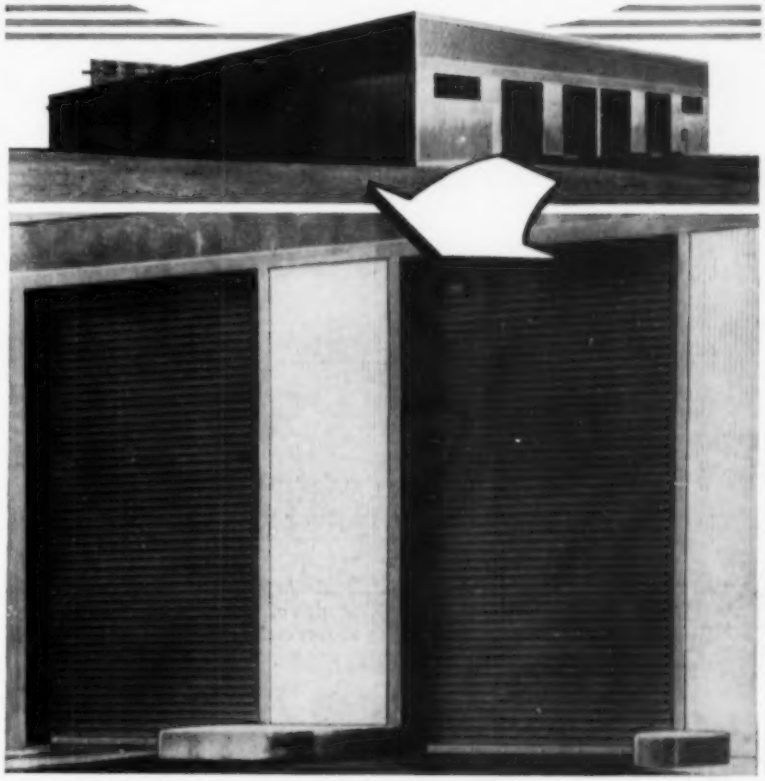
In their report researchers Childs, Roose, Gilkey, and Konzo show that the cold-floor problem of the small house with slab-on-ground has been solved most effectively by perimeter warm-air heating. When downflow air is forced through radial feeder ducts (cast in the concrete slab) to a perimeter duct and thence into the room through registers below windows, it is evident that the heat is directed at the cold slab, the colder perimeter, and at the glass. General opinion has been that conventional warm-air systems delivering air to rooms through interior wall registers would not satisfactorily solve the cold-floor problem in the small house with slab-on-ground. Proof of this opinion as well as

(Continued on page 182)

KINNEAR

Steel Rolling Doors

increase efficiency in another modern building



Ward Steel Co. Pleased with Kinnear Doors

"We certainly are very pleased that Kinnear Doors were selected . . . we operate five of them, and at all times have experienced the utmost of performance."

Mr. J. A. Parsons, Vice President
Ward Steel Co., Cambridge, Mass.

— And in thousands of other buildings, old and new, Kinnear Rolling Doors have proved that they give *better* service at *lower* cost. Their efficient *coiling upward action* and protective all-metal interlocking slat construction permit maximum use of all space around doorways — *inside and outside* the building — always.

Kinnear Rolling Doors open and close with smooth, time-saving ease *year after year.* They assure extra protection against wind, weather, intrusion, and fire. Available for manual or motor operation. Electrically operated doors can be equipped with control switches at any desired number of locations. Kinnear Steel Rolling Doors are built in any size, for easy installation in old or new buildings. *Write for full details today.*

Saving Ways in Doorways
KINNEAR
ROLLING DOORS

The KINNEAR Mfg. Co.
FACTORIES:
1900-20 Fields Avenue, Columbus 16, Ohio
1742 Yosemite Ave., San Francisco 24, Calif.
Offices and Agents in All Principal Cities

for Schools...
and all public buildings

Here is a representative school installation of Weisart Toilet compartments and panel-type built-up shower enclosures.

WEISART
COMPARTMENTS

modern appearance
maximum cleanliness
enduring service

For the stamina to withstand the hardest usage and still retain their good looks, specify Weisart toilet compartments. Their enduring serviceability has triple protection, (1) flush steel construction with edges locked and sealed, galvanized surface smooth as furniture steel, (2) Bonderized for additional corrosion resistance and positive adhesion of enamel, (3) synthetic primer and enamel separately baked, combining highly protective surface with lustrous beauty. Choice of 24 colors! Their engineered construction assures long years of service and fine appearance that lasts. Write for new 1953 catalog and chart of 24 colors.

HENRY WEIS MFG. CO., INC., 521 Weisart Bldg., Elkhart, Indiana

reviews

(Continued from page 181)

data for the improved design of perimeter systems are found in this report.

Important considerations in this study were: slab temperatures, uniformity of air temperature from floor to ceiling, and fuel costs. All three of the convection systems (high-wall registers, low-wall registers, and gravity air) had unsatisfactory floor temperatures. These were sometimes as low as 50 F while the perimeter systems warmed floors to at least 70 F and in some areas to 85 F—a common temperature for radiant panels. Low-register convection produced uniformity of floor-to-ceiling air temperatures comparing favorably to those of perimeter systems—about six degrees. The other convection systems were poor; gravity air showed a difference of 25 degrees. In fuel costs, perimeter heating was 14 percent cheaper than gravity air, which wasted much heat at the ceiling, and 16 percent more costly than low-wall register, the most economical of the convection systems. This is understandable when it is considered that the perimeter system puts the heat where it is needed which the convection system does not. It costs a little more to do an effective job.

Test results pointed to improvements in perimeter design. Two-loop arrangements are not as good as perimeter ducts with radial feeders. Five radial feeders, well distributed, are preferred to three. Registers nearer the feeder ducts show improved operation. High air-flow rates are important in all sections of the perimeter duct. Radial-feeder ducts should join the perimeter duct at the corners of the house.

WILLIAM J. MCGUINNESS

collected data

Foundation Engineering. *Ralph B. Peck, Walter E. Hanson, and Thomas H. Thornburn. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y., 1953. 410 pp., illus., $6.75*

The authors are to be complimented for filling a gap in the literature on Foundation Engineering and this excellent book should be in the library of every engineer or architect having to do with foundation work. It places a practical system of facts in the hands of the designer so that he

(Continued on page 184)

Neville, Sharp & Simon, Architects

MODERN DOOR CONTROL BY *LCN* · CLOSER CONCEALED IN DOOR

FRANK GLENN BOOK STORE, HOTEL MUEHLEBACH, KANSAS CITY, MISSOURI

LCN CATALOG 12-A ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS

Famous
Gunnison Homes
use
HAR·VEY ROLLING DOOR HARDWARE
for
• smoothness • durability
• practicality

With the nation's finest to choose from, Gunnison Homes, Inc. uses Har-Vey as the best all-around hardware for rolling door installations.

Har-Vey's rust-free aluminum track, self-lubricating bearings, and other quality features offer home-owners a lifetime of smooth rolling *without maintenance.*

Also, its practical design simplifies construction work and saves builders time and trouble on the site.

Compare *Har-Vey's quality features and its amazingly* **Low Cost!**—*Completely packaged set of hardware, track and accessories for 2' pocket door only* **$2.70 List**—*Fob Destination!*

Practical Har-Vey design makes hanging of doors a simple task in a Gunnison Home.

Owners enjoy extra space and convenience — and a lifetime of smooth rolling.

A complete line for all your needs

CHALLENGER SERIES
—for doors to 70 lbs.

CHAMPION SERIES
—for doors to 100 lbs.

HAR-VEY HEAVYWEIGHT
—for doors to 200 lbs.

Self-lubricating Oilite bearings ...no maintenance, ever!
Durable NYLON Rollers
Sturdy ribbed-steel hangers, cadmium plated
ADJUSTABLE, for quick, accurate hanging
RUSTPROOF ALUMINUM TRACK

A HOMESHIELD PRODUCT

Get all the facts from your supplier, or write Dept. P

METAL PRODUCTS CORPORATION
807 N. W. 20th St., Miami, Fla.
Western Div. (Calmetco, Inc.) • 609 S. Anderson, Los Angeles
Mid-West Div. (Plymouth Metal Products) • 505 W. Harrison, Plymouth, Indiana

reviews

(Continued from page 182)

can produce a rational and sound design. Basic principles of soil mechanics are covered, and by many illustrative examples, such as in footing design, the authors furnish help to the architect, engineer, or student who lacks time to study the theories of soil mechanics. These theories may never result in an exact science, anyway. This compact volume contains data previously available only after searching several sources and the facts given are in the usual clear and orderly presentation typical of the principal author. No doubt many courses in Foundation Engineering could be built around this book. The reviewer knows of at least one such course (in a foreign school, too!) that will henceforth utilize this easily-followed text.

It is regrettable that answers to the problems (covering each section) are not made available, since nothing gives assurance of understanding so well as developing correct answers from a given set of facts. The existing arrangement is obviously desirable for a school textbook, but a supplement containing answers should be available to meet the needs of the practicing engineer! Because the book avoids theories of soil mechanics, it will not prove useful in special situations where, in most instances, expert and experienced opinion should be obtained. Some may consider this a disadvantage. This reviewer feels that Ralph Peck, Walter Hanson, and Thomas Thornburn have clearly studied and explained the normal problems of Foundation Engineering in a well-planned, useful sequence—something not heretofore done—and that most practicing structural engineers can benefit and learn a good deal from it.

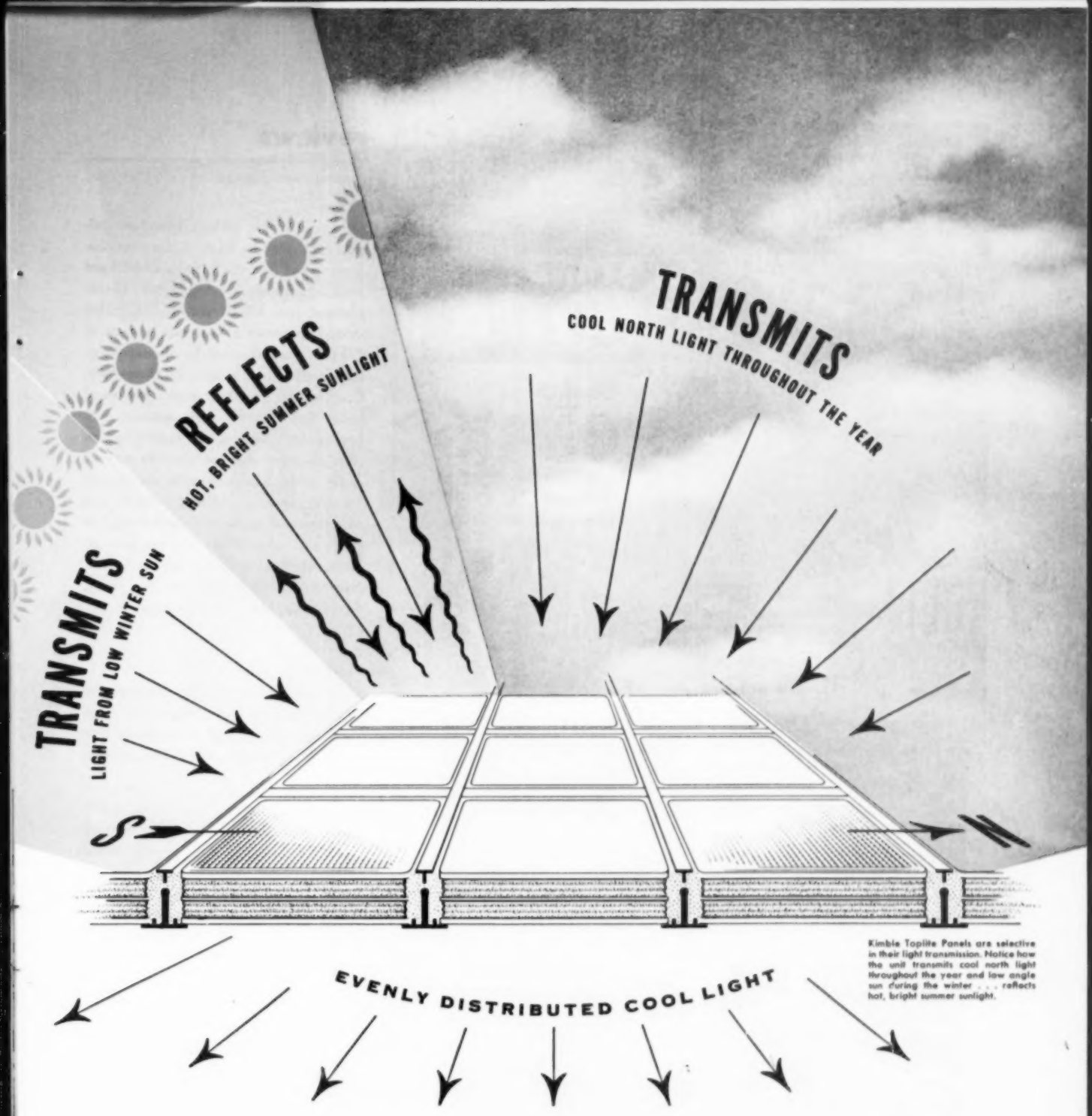
RICHARD A. BIGGS

designs and details of welded bridges

Welded Highway Bridge Design. *Edited by Prof. James G. Clark, University of Illinois. James F. Lincoln Arc Welding Foundation, Cleveland 17, Ohio. 240 pp. $2 in U.S.; $2.50 elsewhere*

Original designs submitted by well-known structural engineers in the Lincoln Foundation's Award Program for welded

(Continued on page 186)



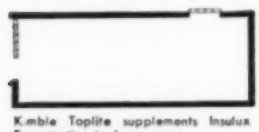
Kimble Toplite Panels are selective in their light transmission. Notice how the unit transmits cool north light throughout the year and low angle sun during the winter . . . reflects hot, bright summer sunlight.

ANNOUNCING TOPLITE—*a new idea in daylighting*

Kimble Toplite Panels limit and control the heat and amount of light entering a building from overhead. Here is the new way to daylight deep interior areas too far removed to be effectively reached by conventional, side-wall, prismatic glass block panels.

Kimble Toplite Panels distribute diffused daylight evenly over wide areas that are far from outside walls. They reflect hot summer sun . . . have unusual ability to reduce solar heat transmission. There are no hot spots, eye-fatiguing glare, nor concentrations of light. Kimble Toplite Panel Units have an insulating value equivalent to double glazing or side-wall glass block.

Want more information about this great, new advance in daylighting? Write Insulux Glass Block Div., Kimble Glass Company, Dept. PA5, Box 1035, Toledo 1, Ohio.



Kimble Toplite supplements Insulux Fenestration in deep rooms.

KIMBLE GLASS COMPANY

Toledo 1, Ohio—*Subsidiary of Owens-Illinois Glass Company*

The STANDOUT ELECTRIC PLANT for STANDBY ELECTRIC POWER

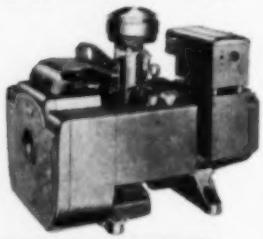
the New ONAN "CW"

(5,000 & 10,000 WATTS)

QUIET RUNNING

10CW—10,000 watts A. C.
High standby capacity for hospitals, hatcheries, schools, stores, plants.

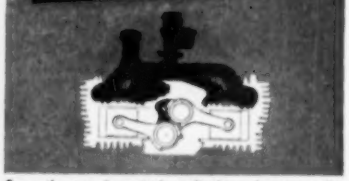
5CW—5,000 watts A. C.
For homes, farms, police radio, micro-wave relay stations, etc.



COMPACT

Takes less than one cubic yard of space. 10KW model requires only half the space of ordinary 10,000-watt plants. Easier to install. Connection box provided for quick hook up.

BUILT FOR HEAVY DUTY



Smooth running twin-cylinder, horizontally-opposed, 4-cycle air-cooled engines deliver rated horsepower at moderate speed. Unusually large bearing surfaces for long life

UNI-DUCT COOLING

Cooling air is drawn by vacuum through generator and over engine. All heated air expelled through one small vent which also discharges engine exhaust. Quiet operating.

DE LUXE EQUIPMENT

Nothing extra to buy. Impulse-coupled, high-tension magneto, radio shielded. Oil-bath air cleaner, fuel filter, oil pressure gauge, fuel tank, muffler and exhaust tubing.

COSTS LESS THAN ANY OTHER COMPLETE ELECTRIC PLANT!
The Onan "CW" combines exclusive design advantages with all the time-proved Onan features such as UNIT-BUILT CONSTRUCTION, *yet it costs less.* Get the complete story of this sensational, all-new electric plant.

Write for detailed specifications!

Onan ELECTRIC PLANTS

D. W. ONAN & SONS INC.

4490 UNIVERSITY AVENUE S.E., MINNEAPOLIS 14, MINNESOTA

reviews

(Continued from page 184)

through highway bridges have been collected to present most of the new, important, and useful information developed for the program. Drawings of elevations, sections and details for an all-welded through highway bridge with a span of 250 ft are accompanied by discussions of the designs by the authors themselves. Chapters of the book cover structural types, floor systems, new sections, connections and details, and quantities and costs in order that comparisons may be easily made between similar features of different designs. Arches, trusses, and other types of designs are represented in many variations. Floor systems used include concrete, steel grid and steel plate. New sections suggested are for plates, tees, beams, channels, and angles.

T.H.C.

structural data

Statically Indeterminate Structures: Their Analysis and Design. *Prof. Paul Anderson. The Ronald Press Co., 15 East 26 St., New York 10, N. Y., 1953. 328 pp., illus., $7.50*

Prepared for use in a first course in statically indeterminate structures, this volume is also intended to provide useful information for designing structural engineers. Numerical applications of actual design problems are presented and one chapter is devoted to typical problems of design, primarily with steel structures. Among the more important phases of the subject which are covered in the book are the basic principles of structural analysis, deflections of beams, deflections of trusses, consistent deflections and least work, and the slope-deflection and moment distribution methods.

B. L.

better than before

A Handbook of Perspective Drawing. *James C. Morehead and James C. Morehead, Jr., Elsevier Press Inc., Houston, Tex., 1952. Illus., 168 pp., $6*

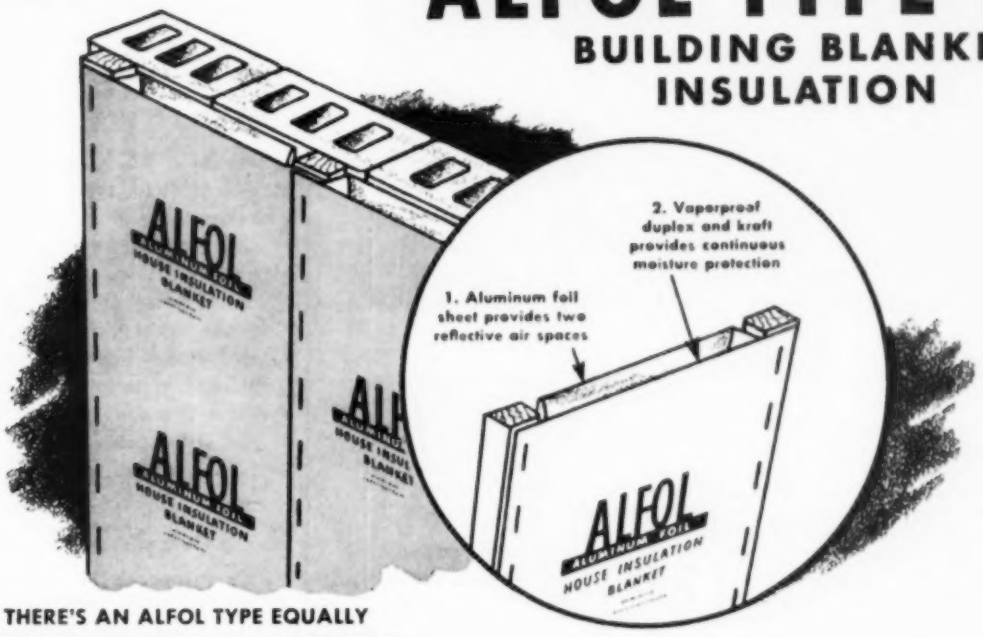
In this new edition an old acquaintance has acquired a handsome new suit of clothes. A number of revisions, new illustrations, and large clear type add to the

(Continued on page 188)

Over an inch of Insulating Efficiency plus a positive vapor barrier—all in the 7/8 inch space of a furred out Masonry Wall!

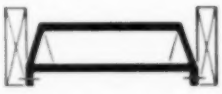
ALFOL TYPE 1A

BUILDING BLANKET INSULATION


ALFOL
ALUMINUM FOIL
HOUSE INSULATION BLANKET
2. Vaporproof duplex and kraft provides continuous moisture protection
1. Aluminum foil sheet provides two reflective air spaces

THERE'S AN ALFOL TYPE EQUALLY EFFICIENT FOR EVERY INSULATION NEED

ALFOL Type IV— Four reflective air spaces for the utmost in thermal efficiency.



ALFOL Type III— Three reflective air spaces—ideal for crawl spaces, unfinished ceilings.

ALFOL Type II— Three reflective air spaces—designed to be applied across stud *faces*.

ALFOL Type I— Two reflective air spaces—in mild climates at lowest cost and top efficiency.

Alfol Type 1A Insulation is specially made for standard masonry construction. It is the only insulation that provides over an inch of insulation value plus a positive, continuous vapor barrier in the usual 7/8" clearance available in 1" x 2" furred masonry walls. Refurring expense is eliminated!

Type 1A has proved effective in hundreds of installations in every section of the country. When applied the pure aluminum foil automatically "pops out" to form two reflective air spaces equal in thermal value to more than an inch of insulation. The heavy vaporproof duplex and kraft backing by which Alfol is applied across the face of the furring assures a positive, continuous vapor barrier.

Write for free literature and complete details — Address Dept. PA-1

ALFOL
BUILDING BLANKET INSULATION
"FIRST IN REFLECTIVE INSULATION"

REFLECTAL CORPORATION
A Subsidiary of
155 EAST 44th ST.
Borg-Warner
NEW YORK 17, N. Y.

How to pick the correct walls for the buildings you design

If you are designing a building, you can pick the correct wall by matching the function of the structure against the Robertson Q-Wall products shown here. These modern walls save construction time and money and give many extra years of maintenance-free service. They can be demounted and reused to keep pace with plant expansion. Q-Walls weigh less than 1/16th of the equivalent masonry wall.

1. Galbestos. Ideal for standard industrial plants. Galbestos has the highest resistance to corrosion and weather of any protected steel siding or roofing you can specify. For mill buildings, warehouses, or any other industrial structures that do not require full insulation.

2. Insulated Galbestos. Perfect for a dry-occupancy industrial building that must be heated. Non-combustible insulation is installed on the job by the Robertson *Top-Speed* fastening method, and Galbestos applied over. Its heat transmission factor (U-Value) is 0.16 BTU per sq. ft. per hr. per degree of temperature difference, F.

3. G-Type Q-Panels. This is a *field-assembled* wall made up of an interior steel vapor barrier, a layer of incombustible insulation, and an exterior of tough, long-lasting Galbestos. The proper combination for an industrial situation which requires both temperature and humidity control. U-Value—0.16 BTU.

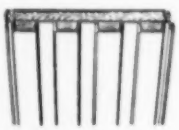
4. Q-Panels. A quickly erected, *factory-assembled* panel combining strong, dry, lightweight construction with architectural beauty. Well adapted to air-conditioned buildings of all sizes, and obtainable with various exterior surfaces, either metal coated steel, stainless or aluminum. U-Value—0.16 BTU.

5. H-Type Q-Panels. Differ from standard Q-Panels essentially in that they contain twice as much insulation. Ideal for cold storage warehouses, refrigeration plants and structures subjected to Arctic conditions. U-Value is 0.08 BTU. Write for complete details.

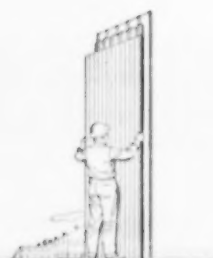
1

2

3


4

5



Robertson

Q-Walls

a product of **H. H. Robertson Company**

2405 Farmers Bank Building • Pittsburgh 22, Pa.

Offices in All Principal Cities — World-Wide Building Service

reviews

(Continued from page 186)

usefulness of a book which has been a standard work on perspective in schools and offices for over ten years.

STANLEY B. PARKER

best Danish houses

Enfamiliehuset af idag. *Svend Erik Moller. Host & Sons Forlag, Copenhagen, Denmark. Available through Museum Books, Inc., 48 E. 43 St., New York 17, N. Y., 1952. 144 pp., illus., $3.00*

Printed in Danish and primarily intended as a guide for people planning to build homes, this paperbound volume contains photographs and drawings of many interesting examples of modern Danish residential design. The majority of the houses presented are prize winners in the annual awards for "sound and harmonious" building, given by Danish municipalities. There is a short introduction in English and also conversion tables nad translations of Danish terms used in the drawings. B. L.

planning principles

An Approach to Urban Planning. *Edited by Gerald Breese and Dorothy E. Whiteman. Princeton University Press, Princeton, N. J., 1953. 147 pp., $2*

Breese and Whiteman, Director and Executive Secretary, respectively, of the Bureau of Urban Research, Princeton University, have collected and edited discussions of basic principles and some of the problems involved in urban planning. These discussions are revisions of a public lecture series sponsored by the Bureau of Urban Research during the fall of 1951 and are divided into the following chapters: "The Planning Process and Public Participation," by Hugh R. Pomeroy; "Land Use and Zoning," by Norman Williams Jr.; "Housing and Urban Redevelopment," by Charles K. Agle; "Metropolitan Transportation," by C. McKim Norton; and "Fiscal Programming," by Walter H. Blucher. In a very inclusive bibliography selections are arranged according to the chapter titles and are carefully annotated. This paper-bound volume is principally designed for interested laymen, municipal officials, and students of urban affairs. B. L.

AIRPORT TERMINAL BUILDINGS

illustrations

All graphs courtesy of Civil Aeronautics Administration, U. S. Department of Commerce, Washington, D. C.

Cover: view of apron from control tower, South Bend, Ind., Airport—photo: *Hedrich-Blessing Studio.*

Page 72

Growth Patterns of Airline Passengers—redrawn: *Frances H. Holmes.*

Page 73

Scheduled Air Traffic Potential and geographic interrelationships—artist: *J. Conrad Breiby, Jr.*

Page 74

Newspaper and Novelty Concession—redrawn: *Frances H. Holmes.*

Concession Stand, Monterey Airport, Calif.—photo: *Morley Baer.*

Page 75

Kitchen and Dining Facilities—redrawn: *Frances H. Holmes.*

Restaurant, South Bend, Ind. Airport—photo: *Hedrich-Blessing Studio.*

Page 76

Municipal Airport, Bradford, Pa.—photo: *R. D. Fraser.*

Page 77

Waiting-Room Traffic—redrawn: *Frances H. Holmes.*

Port of New York Authority Terminal Building, Newark Airport, N. J.—courtesy: *Port of New York Authority.*

International Airport, Tampa, Fla.—photo: *Dan J. Fager.*

Ticket- and Baggage-Counter Requirements—redrawn: *Frances H. Holmes.*

Page 79

Boone County Airport plan and Cincinnatti Metropolitan Master Plan Study—courtesy: *Cincinnatti Planning Commission.*

Time-Distance-Cost—artist: *J. Conrad Breiby, Jr.*

Page 80

Master Plan of Municipal Airport, Augusta, Ga.—courtesy: *Architects.*

Theoretical parallel scheme—courtesy: CAA.

Page 81

Runway Patterns—artist: *J. Conrad Breiby, Jr.*

Page 83

Glass wall and field view showing finger at Philadelphia International Airport, Pa.—photo: *Lowans-Chauvin.*

Sketches of Indianapolis Airport, Ind.—courtesy: *Architect.*

Page 84

Municipal Airport, Yakima, Wash.—courtesy: *Architects.*

Field view of waiting area and interior view of lobby ticketing area, Municipal Airport, Augusta, Ga.—photo: *Morgan Fitz.*

Page 85

Municipal Airport, Topeka, Kan.—rendering: courtesy: *Architects.*

Municipal Airport, Pensacola, Fla.—rendering: *S. H. Gurney.*

Page 86

Rochester, N. Y. Airport—renderings: *John Wenrich.*

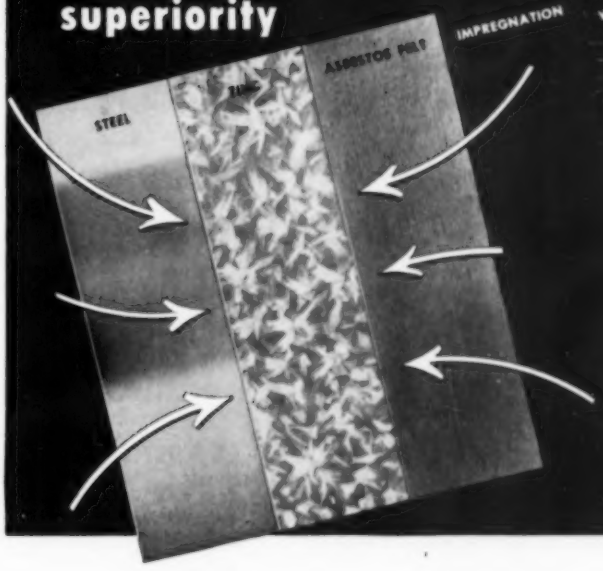
Roseburg, Ore. Airport—photo: *Fredrickson's.*

Page 87

Terminal building circulation—artist: *J. Conrad Breiby, Jr.*

(Continued on page 191)

How molten metal helps give Galbestos its superiority



Robertson Galbestos has the greatest resistance to weather and corrosion of any protected steel roofing or siding obtainable anywhere. This position of broad superiority is made possible by a unique manufacturing process exclusive with H. H. Robertson Company.

First, the steel sheet is pickled . . . then given a coating of molten zinc. Asbestos felt is then pressed on so that as the molten metal hardens in cooling it grips the felt fibers in absolute bond. The asbestos is then impregnated with a special asphaltic compound and, finally, given a tough weatherproof coating. Galbestos can be furnished flat or in the 3 well-known corrugations: Standard, Mansard, and V-Beam. The resultant material is so durable, it may be sheared, bent, rolled, crimped and riveted in the field as easily as ordinary unprotected steel. It will withstand the greatest possible extremes in weather temperatures without deterioration, and will actually retard fire better than naked steel. For an industrial roofing or siding that requires no maintenance under the most severe corrosive conditions, specify Galbestos.

Long Service Life. Galbestos will give longer maintenance-free service under the most severe weather and man-made corrosive conditions. Even salt air cannot penetrate its tough coatings to destroy the steel core.

Not Fragile. Galbestos' strong steel core sheet guarantees against breakage—during shipment or during erection.

Resists Climatic Extremes. Galbestos is not subject to damage either by tropic or frigid temperatures. Its coatings will not run under broiling sun or crack or spall in sub-zero weather.

Goes Up Fast. The exclusive Robertson *Top-Speed* method of attaching Galbestos to structural steel speeds up erection for quicker occupancy.

Resists Flame. Leading testing laboratories have made exhaustive tests on the fire resistance of Galbestos and have published the results. Copies of these reports are available for study.

Robertson

Galbestos

a product of **H. H. Robertson Company**

2405 Farmers Bank Building • Pittsburgh 22, Pa.

In Canada: Robertson-Irwin Ltd., Hamilton, Ontario

In England: Robertson Thain Ltd., Ellesmere Port, Cheshire

"But I didn't hear her call, Doctor."

Not too long ago, anxiety crept into the hospital room when the nurse rustled out. Today, in thousands of American hospitals patients are better protected, more relaxed and reassured thanks to the Edwards Nurses' Call System.

The patient merely presses a button. And this dependable "bedside nurse" picks up the slightest whisper, amplifies and transmits it instantly to the Nurses' Master Station.

More and more architects and hospital officials find their choice of Edwards a happy one . . . because Edwards spells "dependability." For over 80 years, Edwards equipment has been designed with a dual purpose: to protect the reputation of those who *choose* it as faithfully as it serves those who *use* it. Write for free, illustrated bulletin to Edwards Company, Dept. PA-5, Norwalk, Conn.

EDWARDS *protects . . everywhere!*

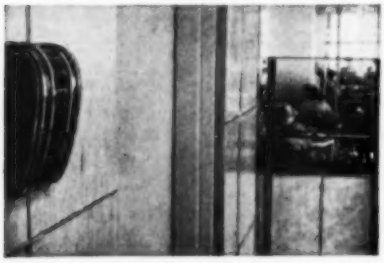
with equipment for SCHOOLS • HOSPITALS • HOMES • INDUSTRY

SAVES STEPS, TIME, EFFORT...

Edwards Soft Speaking Nurses' Call System makes life easier for nurse *and* patient. Patient can make known her needs before nurse goes to bedside.

SPLIT-SECOND ACCURACY!

Every clock—one, ten or a hundred—tells precisely the same time, thanks to Edwards Clock and Program Control. No master clock is needed.



TRIM, MODERN, EFFICIENT:

Edwards Fire Alarms are chosen by leading architects to protect America's most important buildings.

EDWARDS

protects..everywhere!

AIRPORT TERMINAL BUILDINGS

illustrations

Page 88

Terminal building types—artist: *J. Conrad Breiby, Jr.*

Page 89

Comet and coach at London Airport—courtesy: *BOAC.*

Capital Airlines downtown office, Chicago—photo: courtesy *Architects.*

Page 90

Relationship of airplane parking to major spaces, Puerto Rico International Airport—courtesy: *Knappen-Tippetts-Abbett-McCarthy.*

Page 91

Puerto Rico International Airport—rendering: George Cooper *Rudolph.*

Diagrammatic methods of parking planes—courtesy: *CAA.*

Page 92

Philadelphia International Airport, Pa.—photo: *Lowans-Chauvin.*

International Airport, Greater Fort Worth, Tex.—photo: courtesy: *Bell Aircraft Corp.*

Ticketing counter and concession spaces, Mobile Airport, Ala.—photo: *Jack Holmes.*

Waiting Room, Municipal Airport, Augusta, Ga.—photo: *Morgan Fitz.*

Page 93

Monterey Airport, Calif.—photo: *Morley Baer.*

Page 95

Baggage scales and field view of International Airport, Tampa, Fla.—photo: *Don J. Fager.*

Philadelphia International Airport, Pa.—photo: *Lowans-Chauvin.*

Circular chutes, Pittsburgh International Airport, Pa.—photo: *Jack Holmes.*

Weigh-in platforms and baggage claim counter, South Bend, Ind., Airport—photo: *Hedrich-Blessing.*

Baggage Claim—redrawn: *Frances H. Holmes.*

Page 106

Control tower, Missoula, Montana Airport—photo: *Ingvard Eide.*

Apron Service Facilities—redrawn: *Frances H. Holmes.*

Page 107

Municipal Airport, Des Moines, Iowa,—photo: courtesy *Architects.*

St. Louis Airport, Mo.—photo: *Lens Arts.*

Page 108

Substation Tower, Missoula, Mont., Airport—photo: *Ingvard Eide.*

Page 109

Lamella-Principle Hangar—photo: courtesy *A. L. Huxtable.*

Page 111

Balanced-Cantilevered Hangar—photo: courtesy: *The Erwin-Newman Co. and Thompson-Starrett Co., Inc.*

Page 112

Double-Cantilevered Hangar—photo: courtesy: *Boeing Aircraft Company.* Standardized Maintenance Dock—photo: courtesy: *Luria Engineering Company.*

Page 113

Prestressed-Concrete Hangar—photos: courtesy: *Engineering News Record.*

Concrete Hangar—rendering: courtesy *A. L. Huxtable.*

Page 114

Wood-Arch Hangar—courtesy: *Estruturas de Madeira, Sao Paulo, Brazil.*

Laminated Wood-Arch Hangar, Morristown, N. J.—courtesy: *Wigton-Abbott Corporation;* photo: *Gottscho-Schleisner.*

Page 116

Comet—photo: courtesy: *BOAC.*

(Continued on page 192)

Imported

CASTELL*

lays it on the line

CASTELL lead is smoother—has no hard spots.

CASTELL is graphite-saturated for greater adhesion.

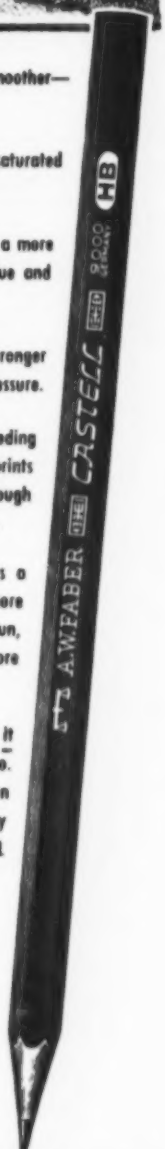
CASTELL lays down a more opaque line for better blue and white prints.

CASTELL points are stronger—less breaking under pressure.

CASTELL is non-bleeding—gives sharp, clean prints after hundreds of trips through the reproducing machine.

Although **CASTELL** is a premium pencil, it is more economical in the long run, giving 25% to 33⅓% more wear.

Let **CASTELL** lay it on the line for you, too. Order from your own dealer. Recognize it by its beautiful "CASTELL green" polish.



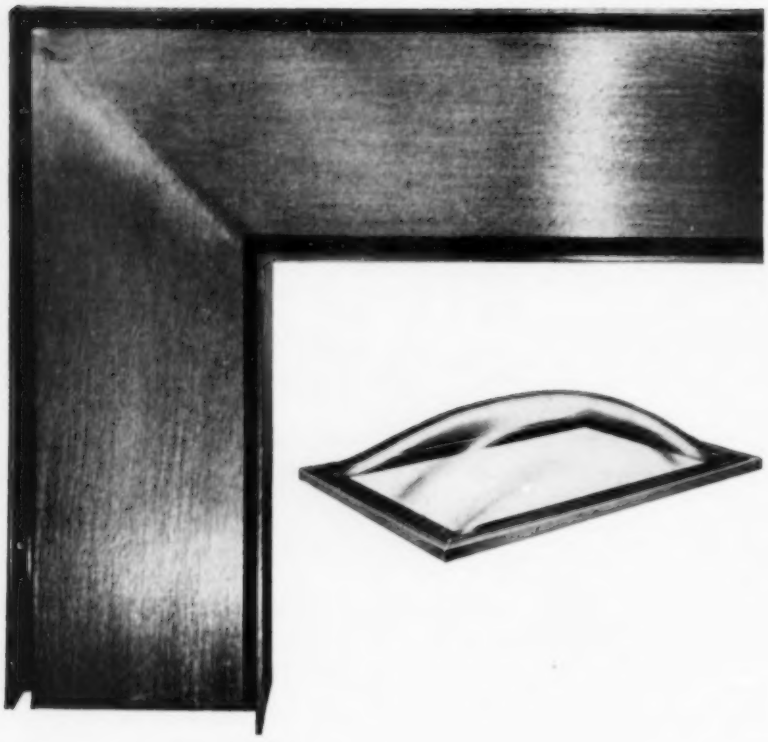
CASTELL

the drawing pencil with the Master Degrees

*Imported from West Germany

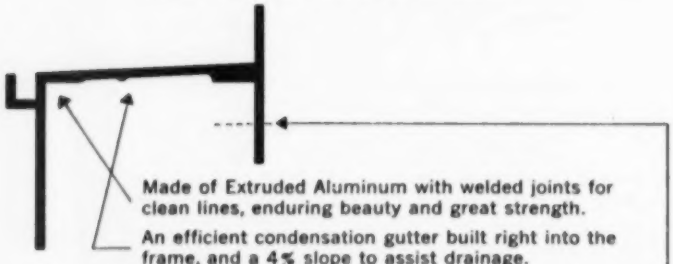
A.W. FABER-CASTELL

PENCIL COMPANY, INC., NEWARK 4, N. J.



It's all in the frame . . .

When you specify **Wascolite Skydomes** you can be sure your buildings will have an overhead daylighting system with high-quality illumination and no maintenance problems. Years of experience in the waterproofing field have helped us develop a pre-fabricated acrylic unit that is completely trouble-free — and it's all in the frame!



Made of Extruded Aluminum with welded joints for clean lines, enduring beauty and great strength.

An efficient condensation gutter built right into the frame, and a 4% slope to assist drainage.

For fool-proof installation the frame is secured to the inside of the well so that the curb flashing is never punctured.

Engineered so that the acrylic dome floats in the frame — edge protected and free to expand and contract.

Wascolite Skydomes come in three basic shapes — 17 stock sizes — with clear or white translucent acrylic domes. For the complete story see Sweet's 19a Wa or write for our new A. I. A. folder.

Wasco Flashing Company, 90 Fawcett Street, Cambridge, Mass.

AIRPORT TERMINAL BUILDINGS

illustrations

Page 117
Comet and Camels at Khartoum Airport—photo: courtesy: BOAC.

Page 118
Mobile Covered Gangplanks—model: courtesy: *Airways Engineering Corp.*
Balanced-Cantilever Hangar—model: courtesy *Thompson Starrett Co., Inc.*; copyright: *The Erwin-Newman Co.*

Page 119
Balanced-Cantilever Truss—model: courtesy: *Thompson Starrett Co., Inc.*; copyright: *The Erwin-Newman Co.*

Page 120
Aircraft Storage Hangars, and Aircraft-Maintenance Area at Secaucus Airport, N. J.—model: courtesy: *Charles M. Goodman.*

Page 121
Restaurant, Dining Space, and Shopping Center at Secaucus Airport, N. J.—model: courtesy: *Charles M. Goodman.*

notices

new practices, partnerships

HENRY TITUS ASPINWALL, Architect, announces the opening of new offices at 937 Port Washington Blvd., Port Washington, Long Island.

PRESTON BOLTON and HOWARD BARNSTONE, Architects, announce the formation of a partnership to be known as BOLTON & BARNSTONE, 3106 Brazos, Houston 6, Tex.

LOUIS GARDNER and EMANUEL N. TURANO, Architects, announce the opening of their offices under the name of TURANO-GARDNER ASSOCIATES, 35 W. 53 St., New York 19, N.Y.

EDMOND A. PACHNER, Architect, announces opening of his office at Paramount Bldg., Palm Beach, Fla.

EVAN M. TERRY, Architect, announces the opening of his offices at 646 Brown-Marx Bldg., Birmingham, Ala.

HOWARD J. SNITOFF and PAUL ROGERS, Structural Engineers announce their association under the firm of ROGERS & SNITOFF, INC., 510 N. Dearborn St., Chicago 10, Ill.

MORRIS A. HALL announces the firm of MORRIS HALL, Architect with offices at 120 Fifth St., N.E., Atlanta, Ga.

The Johns-Manville Flexstone *Special* Built-Up Roof...

THE J-M Asbestos FLEXSTONE* SPECIAL Roof has been developed for decks from dead level to ½" pitch per foot. It is the result of extensive experimentation in the Johns-Manville Research Center and years of successful tests in the field. Now for the first time you can utilize the proven advantages of the well-known J-M Flexstone Asbestos Roof *on flat or nearly flat decks.*

Smooth-surfaced to afford good drainage and make maintenance and repairs easier!

No gravel or slag—cuts down excess weight and saves labor costs!

Made of asbestos—J-M Flexstone Felts are made of fire-rot-and weatherproof asbestos. They last longer and give more enduring protection.

Won't dry out—Because they are made of mineral asbestos, Flexstone Felts are unique in their resistance to the destructive effect of sun!

For your added protection, the Johns-Manville Asbestile* System of Flashing insures proper treatment of all critical areas. Asbestile is a heavy-bodied plastic cement designed for use with asbestos flashing felts to give thorough water-tightness. As it sets, Asbestile forms an integral part of the wall itself.

Flexstone Roofs are applied only by J-M Approved Roofers. For full information on Flexstone Roofs and Asbestile Flashing Systems, send for brochure BU-68A. Write Johns-Manville, Box 158, Dept. PA, New York 16, N. Y.

*T.M. Reg. U. S. Pat. Off.

Johns-Manville FLEXSTONE Built-Up Roofs

ASBESTOS CORRUGATED TRANSITE* • ACOUSTICAL CEILINGS

DECORATIVE FLOORS • MOVABLE WALLS • ETC.

Insulated panels of —used effectively

INSULATED PANELS of U·S·S 17 (Type 430) Stainless Steel and face brick make an eye-appealing combination on this elevation of the National Malleable and Steel Castings Company Technical Center. Glass block and corrugated glass are also used on the building.

Technical Center, National Malleable and Steel Castings Company, Cleveland, Ohio.

Architects and Engineers: Dalton-Dalton Associates, Cleveland.

General Contractor: The Leonard H. Krill Company, Inc., Cleveland.

Panel Fabrication and Erection: The H. H. Robertson Company, Pittsburgh.

Bill of Material

STAINLESS STEEL PANELS AND FLASHINGS

1. 1730 sq. ft. insulated "Q-Panels" (S3 Section), 20 gauge, Type 430, S2D Special Finish, and S8 Section, 18 gauge, metal coated steel, plus 1½" fiber glass insulation.
2. 7449 sq. ft. insulated Wall Panels, Type 430, S2D Special Finish, and 1" tectum insulation.
3. 32 Special Formed Mitered Corners —20 gauge, Type 430, S2D Special Finish.
4. 2 Special Formed Scuppers, 20 gauge Stainless Steel.
5. Approximately 3002 lin. ft. various formed up flashings—20 gauge, Type 430 Stainless Steel.
6. Approximately 750 pieces standard notched corrugated closers, 20 gauge, Type 430 Stainless Steel.

STAINLESS STEEL FASTENERS

1. ⅜" x 3" RHSS Bolts (Fasten Panels to Girts).
2. ⅜" x 1½" RHSS BOLTS.
3. S12 x ¾" RHSS Wood Screws.

U·S·S 17 (Type 430) Stainless Steel with other materials—highlight this new technical center

Now being completed for National Malleable and Steel Castings Company, Cleveland, Ohio, this combination office and laboratory building demonstrates how effectively insulated panels of U·S·S 17 (Type 430) Stainless Steel can be combined with other wall materials.

In many previous applications, insulated Stainless Steel panels covered the entire exterior wall surface of the buildings, but here the architects have used this modern material in conjunction with face brick, glass block and heat-absorbing corrugated glass.

The new National Technical Center—with 18,400 square feet of office area and 14,012 square feet of laboratory area—is of concrete and steel frame construction. Stainless Steel panels cover approximately 9,000 square feet of surface.

Since the structure is completely air-conditioned, the low heat transmission coefficient ("U" factor) of these insulated panels is extremely important. And insulated panels of Stainless Steel have a host of other advantages to recommend them—striking beauty, superior corrosion resistance, freedom from costly maintenance, quick erection without regard to weather conditions, and an initial cost well in line with comparable materials.

For full information on this modern material of construction, send for our new book containing the latest data on construction with panels of U·S·S 17 Stainless Steel. Use the coupon below.

EVEN SEVERE WINTER WEATHER didn't halt erection of Stainless Steel panels on this laboratory and office building. Fast erection without regard to weather conditions is only one of the advantages of this type of construction.

U·S·S STAINLESS STEEL

USS

SHEETS · STRIP · PLATES · BARS · BILLETS
PIPE · TUBES · WIRE · SPECIAL SECTIONS

United States Steel Corporation
525 William Penn Place, Room 2811-W
Pittsburgh 30, Pa.

☐ Please send me your new booklet on U·S·S 17 Stainless Steel for industrial buildings.

☐ Please arrange to have fabricators of Stainless Steel wall panels send me literature on their particular type of construction.

Name ..... Title .....

Address .....

City ..... State .....

United States Steel produces only the Stainless Steel sheet and strip from which panels of this type are made; the panels themselves are fabricated by a number of our customers.

UNITED STATES STEEL CORPORATION, PITTSBURGH · AMERICAN STEEL & WIRE DIVISION, CLEVELAND · COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
NATIONAL TUBE DIVISION, PITTSBURGH · TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. · UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

3-801

UNITED STATES STEEL

DESIGN UNLIMITED

with original

Alsynite®

TRANSLUCENT FIBER GLASS PANELS

● Alsynite is the ideal translucent architectural material. Shatterproof, feather-light. Can be sawed and nailed, installs like corrugated metal. Economical. Seven colors, corrugated or flat. Use Alsynite anywhere and everywhere for brilliant new effects. See our brochure in Sweet's Catalog.

homes...for skylights, window walls, patio roofs, awnings, shower stalls, etc. Ideal indoors and out.

commercial...for store fronts, office partitions, luminous ceilings, decorative effects, signs.

industrial...for unlimited daylighting ...skylights, side walls, etc. No framing needed.

ALSYNITE COMPANY OF AMERICA
Dept. PA-2, 4670 DeSoto St., San Diego 9, Calif.
Please send me complete information on Alsynite and name of nearest distributor.
Name_____
Company_____
Address_____
City_____ State_____
Plants in California and Ohio
Distributors in Principal Cities

AIRPORT TERMINAL BUILDINGS

bibliography

1. **Airport construction and Operation Reference 1941-42.** Occidental Publishing Co., Burrows, Ltd., Los Angeles, Calif. Airport design factors, surfaces, buildings, lighting, communications, operations.

2. **Revenue Bond Financing for Airport Improvements.** James C. Buckley, *The Analysts Journal*, November, 1952.

3. Civil Aeronautics Administration, Department of Commrece, Washington 25, D. C.
a. **Domestic Air Cargo Forecast 1955-1960.** Potential air freight, traffic distribution, handling, and terminal facilities.
b. **National Airport Plan, 1953** (Public Law 377, 79th Congress, Chapter 251, 2nd Session, as amended). New and improved airports for three years, federal aid program.
c. **Statistical Analysis of National Airport Plan for 1952.** Airport dollar, statistical analysis of government airport appropriations.
d. **Regulations for Administering Federal Airport Act, May, 1950.**
e. **Federal Policy Regarding the Development of Helicopters.** As approved by the Air Co-ordinating Committee, July 19, 1951., Washington, D. C. Evolution of military helicopter, operating costs, short-haul, and taxi potential, multi-engine craft.
f. **Effective Community Air Traffic Potential, June, 1950.** Airport Planning Series. Theory of traffic flow, potential distance and population effects, distribution.
g. **Community Airport Requirements, January, 1950.** Airport Planning Series. Potential traffic, community data, area service pattern, passenger index.
h. **Airport Terminal Activities and Space Utilization, July, 1950.** Airport Planning Series. Estimating terminal area, concession customers, passengers, parking.
i. **Passenger and Cargo Volume.** Airport Planning Series. Airport plan 1960, spacing of airports.
j. **Enplaned Airline Traffic by Community, 1951.** Domestic, international, helicopter enplaned traffic, domestic cargo data.
k. **Airline Passengers.** *CAA Bulletin*, December, 1951. Traffic, safety, passenger index, economic and geographic factors.
l. **Airport Design.** *CAA Bulletin*, January, 1949. Site selection, size, layout, details of design, heliports, seaplane facilities.
m. **Airport Terminal Buildings.** *CAA Bulletin*, February, 1953. Building area site selection, air mail, parking, operational types, graphs.

4. **Airport Planning.** Charles Froesch and Walther Prokosch. John Wiley and Sons, Inc., New York, 1946. Fundamental airport requirements, airfield planning, types, present and future aircraft, airport and community, construction, lighting, design.

(Continued on page 200)

SPECIFY:

ALLENCO
First in Interior Fire-Protection Equipment

CONCEALED or FLUSH type SIAMESE

This Siamese minimizes projections from face of building. Body, with two independent self-closing clapper valves, can be inside or even built into wall. Extra heavy bronze, lasts for life of building. Siamese (inlet for F. D.) or wall hydrant (outlet for F. D.), with or without sill cock, full range of sizes. Complete line of standpipe equipment.

Whatever your wants in interior fire-protection equipment, you'll find ALLENCO provides the most reliable and economical product. See Sweet's Architectural Catalog File.

A.I.A. 29e2

ARCHITECT'S DATA BOOK—
Allen on Interior Fire-Protection—packed with concise and complete specifications and practical working data to make your work easier. Available without cost to architects and engineers. Write for your copy or for a call by our Consulting Service . . . now.

Established 1887

W. D. ALLEN
Manufacturing Co.

CHICAGO 6 NEW YORK 7

"Flexachrome" Floors installed in The Chicago Screw Company Cafeteria, Bellwood, Ill.

Keep up Appearances

Cut down Care

Data on "Flexachrome" Floors courtesy The Tile-Tex Division, The Flintkote Company, 1232 McKinley Ave., Chicago Heights, Ill.

Floors like these give any room a lift—add a rich, colorful tone. And regardless of traffic, they'll stay like new for years . . . with only the simplest of cleaning!

They're resilient flooring materials made with VINYLITE Brand Resins. That means lasting flexibility—in both tile and continuous types. It means fresh, clean colors that *stay* fresh and clean. It means low maintenance costs.

Dirt cannot penetrate the hard, non-porous finish of these floors. They're resistant to water, soaps, cleansers, acid and alkali solutions. Oil and grease won't hurt them. Waxing adds an incomparable luster, but is not necessary.

Flooring made with VINYLITE Resins conforms to normal floor play and uneven floors without cracking. It can be laid on concrete in direct contact with the ground.

Whether you're designing a new room or bringing an old one up-to-date—start with flooring of VINYLITE Resins. It offers more beauty, less care, longer wear. It has the properties of the VINYLITE Resins and Plastics that are so useful throughout defense and basic industry. For a list of suppliers, write Dept. PF-58.

Vinylite
BRAND
RESINS

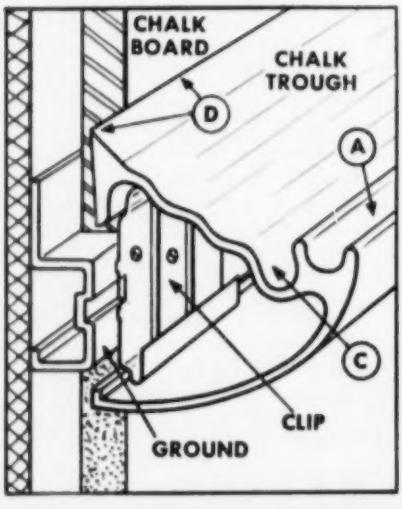
BAKELITE COMPANY, *A Division of Union Carbide and Carbon Corporation* UCC 30 East 42nd Street, New York 17, N. Y.

The NEW LOXIT

inclined extruded aluminum

CHALK TROUGH

5 Striking Advantages!



A **CRAYON HOLDER**—Crayon is in easy reach and away from chalk dust.

B **ERASER POSITION**—Faces student. Ridges keep eraser clean.

C **DUST COLLECTOR**—Dust drops into special groove. Keeps trough clear. Facilitates cleaning.

D **FEATHER-EDGE FIT**—Deflects dust into trough, away from the board and off the floor.

E **SWEEP-OUT END-STOP**—Makes cleaning of trough simple.

Write for catalog for complete information, details and specifications on the Loxit Chalkboard and Tackboard Setting System.

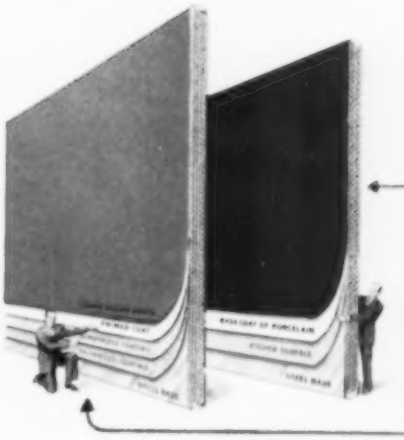
LOXIT SYSTEMS, INC., 1217 W. Washington Blvd., Chicago 7, Ill.

TOILET ROOM ENVIRONMENTS THAT STAY NEW ALWAYS!

Sanymetal CENTURY Type Ceiling Hung Toilet Compartments offer the utmost in sanitation and provide modern, distinctive toilet room environments for schools, institutions, terminals and other public buildings.

● The toilet room environment that stays new is the toilet room in which the most suitable type of toilet compartment available has been installed. Toilet compartments usually dominate a toilet room, influence the toilet room environment and emphasize the utility of fixtures and appointments. The bare functional type of toilet room is inadequate according to today's standards.

Sanymetal offers several different types of toilet compartments for creating the most suitable toilet room environment for every type of building. Sanymetal also offers and recommends Two Full Purpose Metal Base Materials which combine colorful attractiveness with long years of service life and effect important, day after day, savings in cleaning and maintenance cost. These Two Full Purpose Metal Base Materials—Sanymetal "Tenac" (galvanized, Bonderized* steel), a highly corrosion-resistant material; and Sanymetal "Porcena" (Vitreous porcelain on steel), the ageless and fadeless, rust proof material—represent years of engineering research and skillful adaptation by Sanymetal engineers of corrosion-resistant steels to the fabrication of new and different types of toilet compartments.



This is Sanymetal
"PORCENA"
(Vitreous Porcelain on Steel)
A metal base material that is impervious to moisture, odors, cleaning and uric acids, oils and grease. It is rust proof. Available in 21 glistening colors.

This is Sanymetal
"TENAC"
(Baked-On Paint Enamel over Galvanized, Bonderized* Steel)
A metal base material that is notable for the positive adhesion of the baked-on paint enamel to the metal and its resistance to corrosion. Its lustrous, protective finish assures long-lasting newness. Available in 21 gleaming colors.

THE SANYMETAL PRODUCTS CO., INC.
1683 Urbana Road • Cleveland 12, Ohio

Sanymetal Toilet Compartments embody the results of specialized skill and experience in fabricating over 200,000 toilet compartments in all types of buildings. Ask the Sanymetal representative in your vicinity for information about planning suitable toilet room environments that will always stay new. Refer to Sanymetal Catalog 21b/Sa in Sweet's Architectural File for 1953 and Catalog 13a/Sa in Sweet's Industrial File for 1953.

Sanymetal*

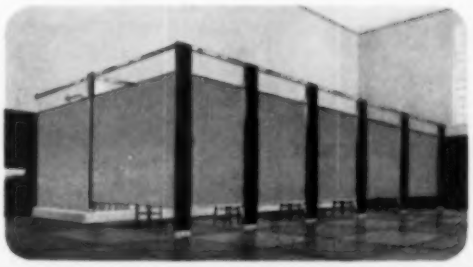
*Trade Mark Reg. U. S. Pat. Off.

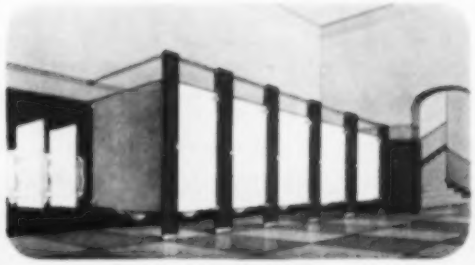
*Treated with "Bonderite", a product of Parker Rust Proof Co.

Sanymetal NORMANDIE Type Toilet Compartments endow a toilet room environment with dignity and good taste.

TOILET COMPARTMENTS, SHOWER STALLS AND DRESSING ROOMS

Sanymetal ACADEMY Type Shower Stalls and Dressing Room Compartments provide the utmost in sanitation for gymnasiums, stadium dressing rooms, Y.M.C.A.'s, clubs, trailer camps and tourist motels, etc.





Sanymetal ACADEMY Type Toilet Compartments are suitable for conservative but modern toilet room environments.

bibliography

5. **Airports: Design, Construction and Management.** Horace Glidden, Harvey F. Law, and John E. Cowles. McGraw-Hill Book Co., 1946. Preliminary requirements for planning, survey, site selection, airport buildings, traffic control, management, communications, zoning, major terminal buildings required for non-aeronautical operation, expansion.

6. **The Airport Terminal Problem.** Albert F. Heino. *Aviation Maintenance*, June, 1944, pp. 47-53. Design, shelters, program, unit plan.

7. **Air Stations.** *Forms and Functions of Twentieth Century Architecture.* Edited by Talbot Hamlin. Vol. 4, 1952, pp. 529-547. Analysis of requirements of airport planning, centralized and decentralized schemes, future trends, design principles, technical requirements.

8. **Airport Design: Its Architectural Aspects.** Walther Prokosch. *Architectural Record*, January, 1951, pp. 112-130. Program, new trends in terminal design, mechanical docking, two-level circulation, arrival and departure areas, apron service possibilities, cargo terminals, concessions, Logan, Stapleton, and Denver Airports.

9. **Designing the Large Terminal.** Albert F. Heino. *Architectural Record*, April, 1945, pp. 80-83. Unit terminal ideas, diagrams of airport planning, decentralized parts, size, analysis of unit terminal, separation of levels, traffic patterns, ports as community developments.

10. **The Airport as a Nuisance.** Edward C. Sweeney. *Journal of Air Law*, IV: July, 1953, No. 3, p. 330. Legal aspects of airport planning and placement, noise, hazards.

11. **The Airport and Its Neighbors.** *The Report of the President's Airport Commission*, Washington, D. C., May 6, 1952. Airport as a local problem, nuisances, risks, a national problem, traffic control, community plan, survey of national airport policy.

12. **Air Traffic Control Dominates Airports.** Julien Whittlesey. *Architectural Record*, April, 1945, pp. 68-71.

13. **Airports and Air Traffic.** John Walter Wood. Coward-McCann, New York, N. Y., 1949. Potential air traffic, airport and community, civil airport requirements, cargo airports, commuter ports, service and private ports, size, runway design.

14. **New Thinking on Airport Terminals.** *Architectural Forum*, November, 1952, pp. 130-143. Unit, centralized, and consolidated systems, size, expandibility, built-in flexibility, concessions, St. Louis: the great room, Pittsburgh, Monterey: a country club airport, big terminals—liabilities or assets, Cleveland: a self-contained community.

ROMANY TILES
ARE REAL TILES

Extra Strong-Extra Wear!

There is good reason for the extra strength and wear resistance of ROMANY Tile. The tile body or biscuit is of native clays, burned at carefully controlled high temperatures in excess of 2000 deg.F. The absorption percentage is about one half the accepted standard for the tile industry, an important factor.

Every Architect should have our Sample Tile Chart No. 6. It's free

UNITED STATES QUARRY TILE CO

Member: Tile Council of America and Producers' Council, Inc.

217-G FOURTH ST., N.E., CANTON 2, OHIO

notices

new address

BEN L. ROSE, designer and builder of stores and interiors, announces location of BEN L. ROSE ASSOCIATES at 1674 Broadway, N. Y. 19, N. Y.

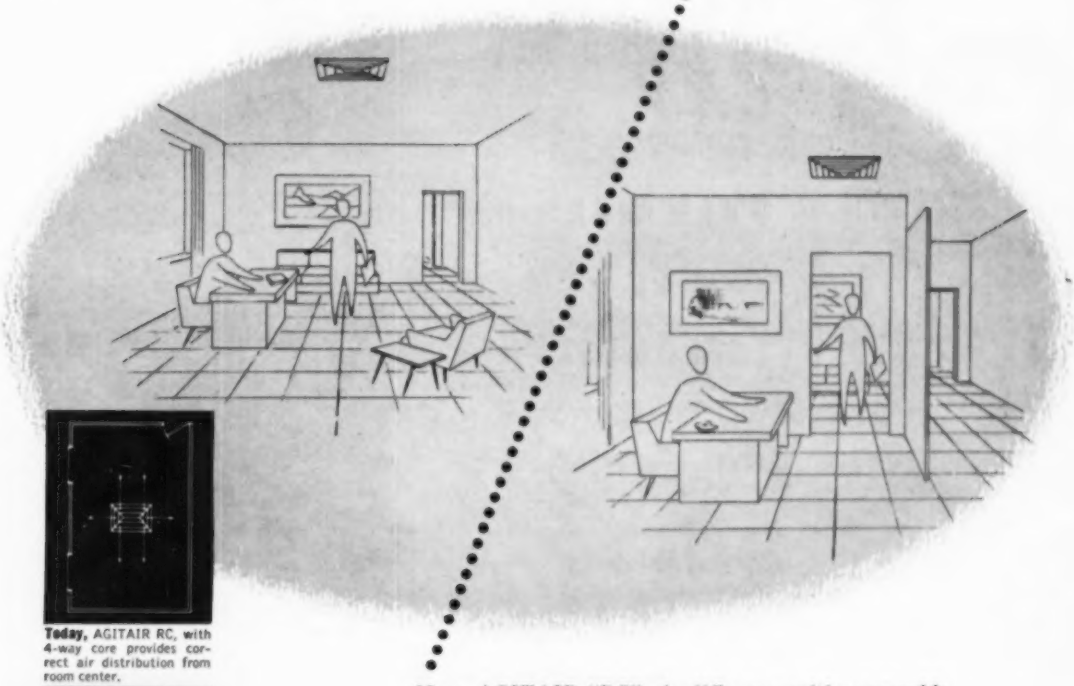
firm name changed

PAUL W. PEARSON, President of INDUSTRIAL EQUIPMENT CO., 315 N. Ada St., Chicago 7, Ill., manufacturer of overhead cranes, jib cranes and monorail systems, announces that the firm name has been changed to INDUSTRIAL CRANE & HOIST CORPORATION. The firm name has been changed to better identify Industrial Crane & Hoist Corporation with the cranes, runways, and hoists that it engineers, manufactures, and sells throughout the U. S.

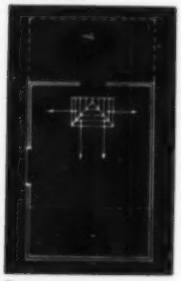
another architect

RUFUS NIMS & WILLIAM JAMESON, Architects, Miami, Florida, were designers of the Howard Johnson restaurant chosen to illustrate the Brasco Manufacturing Co. advertisement on page 31 of January 1953 P/A, which was erroneously credited to Wahl Snyder.

How to be years ahead...over head



Today, AGITAIR RC, with 4-way core provides correct air distribution from room center.



Tomorrow, with walls moved and partitions added, a 3-way AGITAIR core assures correct air distribution from side of room.

Now, AGITAIR "RC" air diffusers—with removable, interchangeable cores—enable you to plan for today and be prepared for tomorrow. Mounting frames are permanent, attractive . . . come in three distinct styles to meet all job conditions. Exclusive AGITAIR features include patented, built-in diffusing vanes and unlimited pattern possibilities . . . giving 100% control of volume and direction of discharge in areas of any size or shape. Installation is quick, simple. Merely attach mounting frame to duct. Then insert diffuser core and lock into position. Whether you are an architect, engineer or contractor, you will want the latest technical data on the new AGITAIR "RC" diffuser. Contact your local AGITAIR representative, or write us today.

The vanes make the difference

AIR DEVICES, INC.

17 East 42nd Street, New York 17, N. Y.

AIR DIFFUSERS • FILTERS • EXHAUSTERS

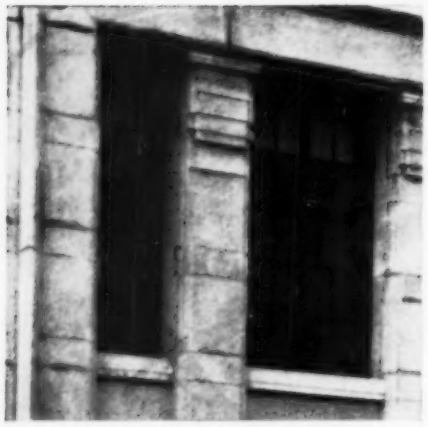
TYPE RC . . .
For Standard Installations

TYPE RCDF . . .
For Drop Frame Installations

TYPE RCTC . . .
For Tile Ceilings

YOU'LL NEVER CRY

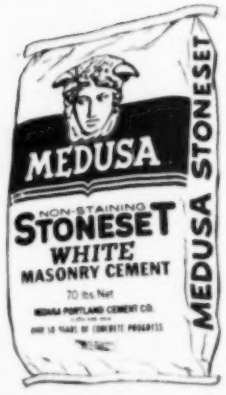
OVER WEEPING JOINTS AND EFFLORESCENCE



WHEN YOU USE

MEDUSA STONESET

● Many an architect has seen his best work disfigured by weeping joints and efflorescence. Weeping joints—ugly stains originating at the bottom of vertical joints between blocks or facing slabs and extending horizontally across the course—caused by absorbed moisture leaking through from the back, carrying solid ingredients from the mortar or stone, which are deposited when the water evaporates. Efflorescence—that white, powdery, disfiguring deposit on a brick wall—caused by the evaporation of water containing alkali salts. Eliminate both of these evils by specifying Medusa StoneseT, the white, non-staining mortar cement, for all ornamental stone facing and face brick. Write for complete information.



THE WHITE NON-STAINING MASONRY CEMENT

MEDUSA PORTLAND CEMENT COMPANY

Sales Offices

Cleveland 15, Ohio
Baltimore 2, Md.
New York 17, N. Y.
York, Pa.
Chicago 1, Ill.
Pittsburgh 22, Pa.
Washington 5, D. C.
Milwaukee, Wis.
Toledo, Ohio

You can build BETTER with MEDUSA PRODUCTS

BIG NEWS IN ALUMINUM!

48" Wide Embossed Industrial Corrugated ...For Lower Installed Cost, Improved Appearance!

All the advantages that have made Reynolds Aluminum Industrial Corrugated a sweeping success throughout industry... rust-proof permanence, lowest maintenance, high insulation... now at even lower installed cost and with improved appearance! With these new 48" sheets, side laps take 30% less metal, 30% fewer fasteners... and there are 30% fewer sheets to handle. With the new stipple-embossed finish, the wider-spaced laps tend to disappear... making a handsome, uniform, textured effect. Call on Reynolds for literature, technical and application details.

Offices in principal cities. Check your classified phone book for our listing under "Building Materials." Or write Reynolds Metals Company, Building Products Division, 2014 South Ninth St., Louisville 1, Kentucky.

DESCRIPTION:

METAL THICKNESS: 0.032 inch (22 U.S. Std. Ga.)

FINISH: Embossed.

LENGTHS: 5', 5' 6", 6', 6' 6", 7', 7' 6", 8', 8' 6", 9', 9' 6", 10', 10' 6", 11', 11' 6", 12'. (Special lengths cut to order subject to inquiry.)

WIDTH: Over all width 48½", nominal coverage 45½", 1½ corrugations side lap.

CORRUGATION: Pitch 2.667" center to center, depth ⅞", 18 crowns, 18 valleys, one edge up, opposite edge down.

WEIGHT: 56 pounds per 100 square feet of formed sheet.

Standard .032" mill finish Industrial Corrugated also available—35" width, same lengths as above.

REYNOLDS *Lifetime* ALUMINUM INDUSTRIAL CORRUGATED

SEE "Mister Peepers," starring Wally Cox, Sundays, NBC Television Network. **HEAR "Fibber McGee and Molly,"** Tuesdays, NBC Radio Network.

Electrically, it's Westinghouse in St. John's Hospital, Springfield, Missouri. Architect-engineers Marguolo & Quick worked closely with Westinghouse to design an electrical system that is both efficient and economical. Westinghouse equipment includes switchgear, bus duct, power centers and 89 De-ion Circuit Breaker Panelboards.

Design more safety and less maintenance into hospitals . . . with Westinghouse Panelboards

Selecting electrical equipment for hospitals demands special attention to safety and maintenance problems.

That's why Westinghouse Circuit Breaker Panelboards were selected for the new St. John's Hospital in Springfield, Missouri. They combine maximum circuit protection with minimum interruption of vital hospital services. And, with fuses eliminated, they cut maintenance time and cost.

At the heart of any Westinghouse Panelboard are famous Westinghouse De-ion® Circuit Breakers. They're built with extra margins for extra safety, extra performance. They trip instantly on short circuits and dangerous high overloads but ride out temporary, harmless overloads. When faults are cleared, a flip of a switch restores power.

There's a Westinghouse Panelboard for any circuit protection problem . . . in any type of building. Thirteen assembly plants give fast service and quick delivery throughout the country.

For the full story, call your Westinghouse Representative, or write for B-5260-A, Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pennsylvania. J-93499-B

YOU CAN BE SURE... IF IT'S

Westinghouse

aluminum WINDOWS *by* GENERAL BRONZE

● Study the outstanding buildings of the past half century and you'll find many with "Windows by General Bronze."

Whether the new building you are planning is a school, a hospital, an apartment, a commercial building, or a modern new special purpose building like the one pictured here, General Bronze can offer you a wealth of practical experience in solving your problems as they pertain to windows, spandrels, curtain walls and architectural metalwork.

With a background of more than 40 years' experience, working with hundreds of leading architectural firms, we have learned what features architects want in windows—what kind of help they appreciate most in working out exterior curtain wall design problems—what makes their job run easier and smoother.

Because of our unequalled facilities and our vast experience, we are well qualified to serve you, especially when your requirements are complex or unusual. We will be glad to discuss your problems with you at any time. Our Catalogs are filed in Sweet's.

● STERLING WINTHROP RESEARCH INSTITUTE
Rensselaer, N. Y.
Architects: S. Stuart Thompson and Phelps Barnum
Contractors: Grove, Shepherd, Wilson & Kruge

GENERAL BRONZE CORPORATION • GARDEN CITY, N. Y.

PERMATITE DIVISION—Custom-built Windows, Architectural Metal Work and Revolving Doors. ALWINTITE DIVISION—Residential Aluminum Windows.
BRACH MFG. CO. DIVISION—Meltel, T. V., Radio and Electronic Equipment STEEL WELDMENTS, INC. DIVISION—Custom fabrication in steel and iron.

pa JOBS AND MEN

SITUATIONS OPEN

ARCHITECTURAL DRAFTSMEN-DESIGNERS — contemporary work only: N. J. resident preferred. Senior: 5-10 years small office experience. Junior: architectural school degree. New office location adjoins South Orange D.L.&W. station. State qualifications in written reply. Leo L. Fischer, 24 Commerce St., Newark, N. J.

ARCHITECTURAL DRAFTSMAN AND CHIEF DESIGNER—immediate opening and opportunity for permanent association in long-established office in progressive Southeastern city, population two hundred thousand. Reply full particulars in confidence to Box 1 PROGRESSIVE ARCHITECTURE.

JUNIOR AND SENIOR ARCHITECTURAL DRAFTSMEN—principally schools. Ideal working conditions. Excellent future for qualified men. Office located in Kansas City. Give full information on education, experience, starting salary, availability, age, etc. in first letter. Replies held confidential. Box 2 PROGRESSIVE ARCHITECTURE.

THREE EXPERIENCED ARCHITECTURAL DRAFTSMEN—also an experienced Specification Writer. Gamble, Pownall & Gilroy, Architects, 1407 East Los Olas Blvd., Ft. Lauderdale, Fla.

EXPERIENCED ARCHITECT — wanted for responsible position in project coordination and client contact by Victor Gruen for his office in Los Angeles. Must be willing to travel and set up temporary residence in project cities. Experience with commercial work essential. Application to be accompanied by information concerning background, education and experience and addressed to 8460 Santa Monica Boulevard, Hollywood 46, Calif.

MIDWESTERN UNIVERSITY AIA—accredited, has vacancy for teacher of architecture effective September 1953. Should be qualified to teach freehand drawing, design, working drawings and building construction. Salary and rank open. Box 8, PROGRESSIVE ARCHITECTURE.

SITUATIONS WANTED

YOUNG ARCHITECT—registered by examination seeks position with a future. Small office preferred. Rounded experience in public and private work, including supervision and design. Record of experience furnished upon request. Box 3, PROGRESSIVE ARCHITECTURE.

ARCHITECT—over 20 years' varied experience on commercial, institutional and large industrial projects. Capable preliminary designs, specifications, supervising work of others or assuming complete charge of office. In reply state working conditions and approximate salary. Box 4, PROGRESSIVE ARCHITECTURE.

ARCHITECT—registered in Florida and other states, desires partnership or association with progressive architect. Location preferred: Florida. Practiced several years. Twenty years' experience with schools, housing, churches, apartment buildings, commercial, industrial and public buildings. Can share financing. Box 5, PROGRESSIVE ARCHITECTURE.

DESIGNER-CHIEF DRAFTSMAN—20 years' experience in planning, designing, working drawings and details, for schools, churches, theaters, retail and department stores. Registered: presently Associate earning over $10,000, in responsible charge of work. Capable all phases, including client contact. Go anywhere, available May. 40 years of age, children. Box 6, PROGRESSIVE ARCHITECTURE.

EXCELLENT OPPORTUNITY—an architect with offices in New England, NCARB certificate, wishes correspondence with an architect with established offices in New York State with a view to a partnership. Preferably up-state New York but not absolutely essential. Box 7, PROGRESSIVE ARCHITECTURE.

ASSOCIATION WANTED — ARCHITECT-ENGINEER—wants to associate with architect or engineer. Have 25 years' very broad experience. Can invest and design and produce with guaranteed profits if you can procure projects. Prefer Chicago or Southwest U.S. Will do, first job on flat fee for design and preliminary working drawings. F. Langhenrich, 4541 Washington Blvd., Chicago 24, Ill.

Advertising Rates

Standard charge for each unit is Five Dollars, with a maximum of 50 words. In counting words, your complete address (any address) counts as five words, a box number as three words. Two units may be purchased for ten dollars, with a maximum of 100 words. Check or money order should accompany advertisement and be mailed to Jobs and Men, c/o Progressive Architecture, 330 W. 42nd St., New York 36, N. Y. Insertions will be accepted not later than the 1st of the month preceding publication. Box number replies should be addressed as noted above with the box number placed in lower left hand corner of envelope.

MISCELLANEOUS

ARCHITECT-ARTIST AND DELINEATOR — of long experience, offers services for freelance architectural renderings and perspectives, bird's-eye views of real estate developments, city-planning projects, engineering structures, highways and bridges. Construction of "perspectives in lines," without rendering. Instruction in Perspective and Rendering. Theodore A. De Postels, A.I.A., 644 Riverside Drive, New York 31, N. Y. AUdubon 6-0160.

CAREER BUILDERS PLACEMENT SERVICE—for Architects, Architectural Designers, Interior Designers, Industrial Designers, Draftsmen and Office Personnel. Interviews by appointment. PLaza 7-6385, 35 West 53rd Street, New York 19, N. Y.

ARCHITECTS-DESIGNERS—don't be burdened with the overhead of draftsmen and space. Let us do your preliminary sketches, details, working drawings, renderings and engineering on houses, institutional and commercial work. All work is done under the supervision of architects and engineers. Architectural Drafting Service, 35 So. Dearborn St., Chicago 3, Ill.

MURIEL FEDER-ARCHITECTURAL & DESIGN PERSONNEL AGENCY—a personalized placement service for top-level architects, designers, engineers, draftsmen, estimators, and interior designers. Selective contacts arranged in a confidential and professional manner. Interviews by appointment. 724 Fifth Avenue, New York, JUdson 6-5877.

ARCHITECTURAL MODEL SERVICE—specialists in architectural, industrial and engineering scale models. Many years' experience devoted to precision, neatness and skilled craftsmanship. Low overhead and up-to-date methods of construction, enables us to quote reasonable fees. Guaranteed delivery by air to all parts of the United States and South America. Brochure upon request. J. L. Browne, Visual Architectural Consultant, 6395 S. W. 42 Terrace, Miami, Fla.

ARCHITECT-DESIGNER—32 years' experience in New York City, offers services for freelance architectural rendering and perspective, preliminary sketches of plans and elevations, housing, schools, churches, etc. Reduce overhead of drafting and worries. Have your new job prepared in new way. C. E. Charbonneau, 210 Pelham Road, New Rochelle, N. Y.

ARCHITECTURAL PERSPECTIVE STUDIO—21 E. Van Buren, Chicago, Ill., Phone Harrison 7-3638. Perspectives, exteriors or interiors, aero-views, composite factories, views black and white, water colors. Tenth year of successful service.

STRUCTURAL ENGINEER—of long experience, offers his services for design of rigid frames, arches, industrial crane runways, flat slabs, and foundations. John Saray, P. Eng., 1456 Villa Ave., Birmingham, Mich.

ARCHITECTURAL ENGINEERING

A Practical Course (HOME STUDY) by Mail Only

Prepares Architects and Draftsmen for structural portion of

STATE BOARD EXAMINATIONS

For many this is the most difficult section of the examinations. Qualifies for designing structures in wood, concrete or steel. Successfully conducted for the past nineteen years. Our complete Structural Engineering course well known for forty-three years.

Literature without obligation— write TODAY

WILSON ENGINEERING CORPORATION

College House Offices Harvard Square
CAMBRIDGE, MASS., U. S. A.

Standard Specifications for STAGE CONSTRUCTION

Send Coupon for FREE COPIES

These standard specifications are the result of more than 76 years of designing and building stages that are completely safe, flexible and easily operated — for present and future requirements.

With these specifications, the architect is assured a stage — in theatre, auditorium or school — which not only meets every contemplated use of the stage and every building code involved, but which will be a definite credit to the profession. Many architects have told us, "These are the kind of specifications that are really valuable to us." Send the coupon or write for your copies.

World's Largest Designers, Manufacturers and Riggers of Stage Equipment.

J. R. CLANCY INC.

1020 W. BELDEN AVE., SYRACUSE 4, N. Y.

Please send ____ sets of "Standard Stage Specifications."

Firm .....

Street .....

City ..... *Zone* ..... *State* .....

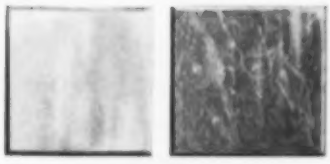
No Job too Large • No Job too Small

Specify with Confidence

BEAUTIFUL • DURABLE

HASTINGS AIRCRAFT ALUMINUM alumitile

22 Smart Colors • PLAIN OR MARBELIZED FINISH



Meets Every Test!

HAMMER IT

HASTINGS alumitile is constructed to withstand rough treatment. The hardest blow will not crack the lustrous enamel finish which is firmly bonded to sturdy aircraft aluminum, before the metal is formed.

BEND IT

HASTINGS alumitile, under pressure, may be bent double without cracking or breaking the painted surface. Factory tests made daily insure a tile of the very finest quality.

HOLD IN FLAME

HASTINGS alumitile is fireproof. You can test its heat resisting qualities yourself by holding a lighted match to it. Note how easily the smudge that forms can be wiped off with a damp cloth.

The ideal wall facing for new construction or remodeling jobs . . . for bathrooms, kitchens, utility rooms. Strong but light in weight. Enough tile to cover 120 sq. ft. weigh only 37 lbs.—no structural strain. Supplied in over 25 different shapes and sizes. Lustrous enamel finish will not chip, crack, peel or corrode . . . waterproof, fireproof. Factory laboratory tests include 500-hour salt spray, 1000-hour humidity test and many others. Easy to install, modestly priced. WRITE for samples and prices.

Guaranteed by Good Housekeeping

METAL TILE PRODUCTS, INC. Dept. 510 **HASTINGS, MICHIGAN**

Send samples and prices on *HASTINGS alumitile*. I am
☐ Architect ☐ Contractor ☐ Dealer ☐ Distributor

NAME .....

ADDRESS ..... ZONE .....

CITY ..... STATE .....

3 sure ways to better,

1. Plywood subfloors

FIR PLYWOOD subflooring can be applied in less than half the time required for lumber. Big panels cover large areas quickly . . . fit standard joist spacing without wasteful cutting and fitting.

Plywood subfloors are solid. Won't cup, squeak, swell or shrink . . . protect against drafts and air infiltration. Rigid plate-like action gives added protection against windstorms or earthquakes.

Specify PlyScord for Subfloors

*PlyScord is the economical unsanded construction grade of interior-type fir plywood. Glue is highly water-resistant (but *not* waterproof) and will withstand occasional wetting on the job.

2. Plywood underlay

TILE, linoleum or wall-to-wall carpeting lays flat, *stays* flat over smooth, flat fir plywood. Large, smooth panels do away with "humps" and ridges which mar beauty, offer points of wear.

Fir plywood underlay cuts costs, too. Saves time and labor. No felt needed; coverings can be placed directly on the plywood. No pre-drilling or special fastenings needed with plywood underlayment.

Specify PlyPanel for Underlay

*PlyPanel is the versatile "one-side" grade of interior-type fir plywood. For underlayment, for paneling, cabinet work and other indoor jobs where only one smooth side is required.

3. Plywood combined

HERE's a real cost-cutter. Use a single thickness of fir plywood for both subfloor *and* underlay. Because plywood gives great structural strength *plus* smooth, flat surface, you save two ways: you save on materials, you save on labor.

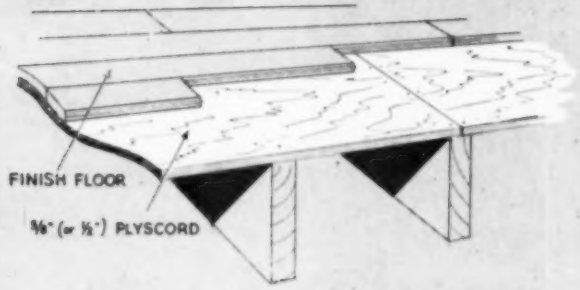
Combined subfloor-underlay of fir plywood gives entirely adequate construction for any finish floor including tile, linoleum or carpeting.

Specify PlyPanel for Subfloor-Underlay

*PlyPanel is the versatile "one-side" grade of interior-type fir plywood. Use it for combined subfloor-underlay, for paneling, cabinet work, and other indoor uses where only one smooth side is required.

*Always look for these registered industry trademarks—your guide, guard and assurance of DFPA quality-tested fir plywood. For detailed specification data write (USA only) Douglas Fir Plywood Association, Tacoma 2, Washington for 1953 Basic Catalog.

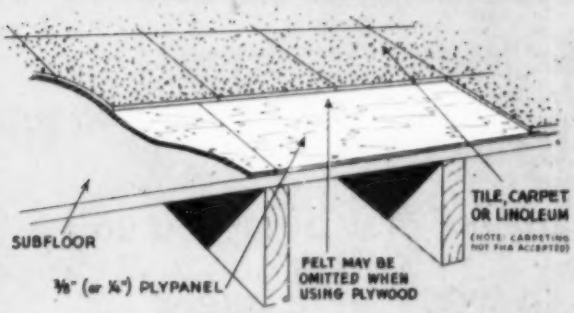
go down fast, cut labor costs in half



APPLICATION: Apply with face grain across joists. Usual installation is over joists 16" o.c., but spacing up to 24" o.c. satisfactory with 25/32" strip flooring. Use 8d com. nails for 5/8" plywood, 6d for 1/2"; nail 6" o.c. at panel edges, 10" o.c. on other bearings.

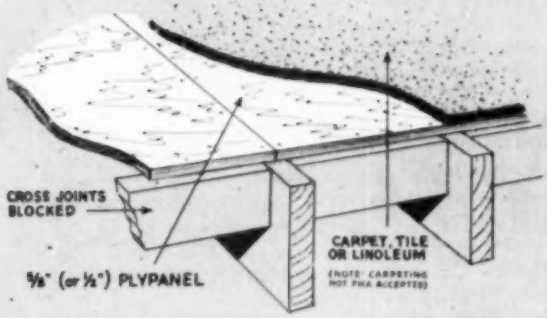
faster floor construction

makes floor coverings look better, last longer



APPLICATION: Preferable to place panels with face grain running across joists, breaking joints over joists. Nail approximately 6" o.c. on panel edges, 8-10" o.c. elsewhere. Ringed nails hold better.

subfloor-underlay gives really big savings



APPLICATION: Apply panels and nail as for subflooring above. Note blocking along panel edges at right angles to joists.

TYPICAL FLOOR PLAN

Architects and engineers for Chicago's 2933 Sheridan Road Apartments were Pace Associates, Chicago. Management of the building is handled by Benjamin E. Sherman & Son, Chicago.

How Honeywell Customized Temperature Control can help you solve a real problem in every apartment building you design

Special system keeps all tenants comfortable all the time, cuts fuel costs

What can you do to keep tenants from opening windows (thus wasting costly heat) when they think their apartment's overheated? How do you answer a tenant's complaint that "It's too cold up here" when his apartment is far from the boiler? Or for that matter, just how do you satisfy the people who like it 76° and those who insist on 68°—in the same building?

Ever since the first apartment was built, owners and managers have been plagued by such questions. But they need no longer worry.

The way these problems are being met—by Honeywell Customized Temperature Control—in the 2933 Sheridan Road Apartments in Chicago shows why. This installation provides separate thermostats for every apartment—so tenants can select the temperature *they* want.

Here's what a couple of people intimately acquainted with the 2933 Sheridan Road Honeywell Customized Temperature Control installation have to say:
Tenant Lee H. Kulp says, "Our rooms are always comfortably warm—but never hot or stuffy. My wife is delighted."

L. H. Sherman, *management associate*, says, "All our tenants find the system very satisfactory. As owners and agents we're especially pleased with the economical fuel consumption."

Thermostats indicated on the typical floor plan above are Honeywell's dependable T0400. They're connected to new Honeywell Midget Valves which regulate temperature of ceiling panels.

Other features of the Honeywell Customized Temperature Control installation include individual thermostats to control unit heaters in the garage area. A separate summer air cooling system for the corridors is controlled by Honeywell's sensitive L0900.

For comfortable, even temperature in new or existing buildings—of any size—use Honeywell Customized Temperature Control

Whether it's an apartment, church, school, office, factory, hospital, store, garage—or any size building—new or existing, Honeywell Customized Temperature Control can help meet your clients' heating, ventilating, air conditioning and industrial control problems.

Once equipped with Honeywell Customized Temperature Control, they'll have an ideal indoor "climate"—and save fuel besides.

And with a complete line of pneumatic, electric and electronic controls to choose from, Honeywell Customized Temperature Control offers you the greatest flexibility in design.

For full facts on Honeywell Customized Temperature Control, call your local Honeywell office. There are 104 across the nation. Or mail the coupon today.

One thermostat furnishes ideal comfort in smaller apartments. Tenants can regulate to comfort level *they* prefer, get compensating effects of individual thermostat against north winds or winter sun—depending on exposure of apartment.

Two thermostats in larger apartments such as this give tenants zoned comfort, save additional fuel for management. Manager normally turns back both thermostats when tenants leave for cold-weather vacations—thus saving considerable fuel.

MINNEAPOLIS
Honeywell

First in Controls

MINNEAPOLIS-HONEYWELL REGULATOR CO.
Dept. PA-5-79, Minneapolis 8, Minnesota

Gentlemen:
I'm interested in learning more about Honeywell Customized Temperature Control.

Name _____

Firm Name _____

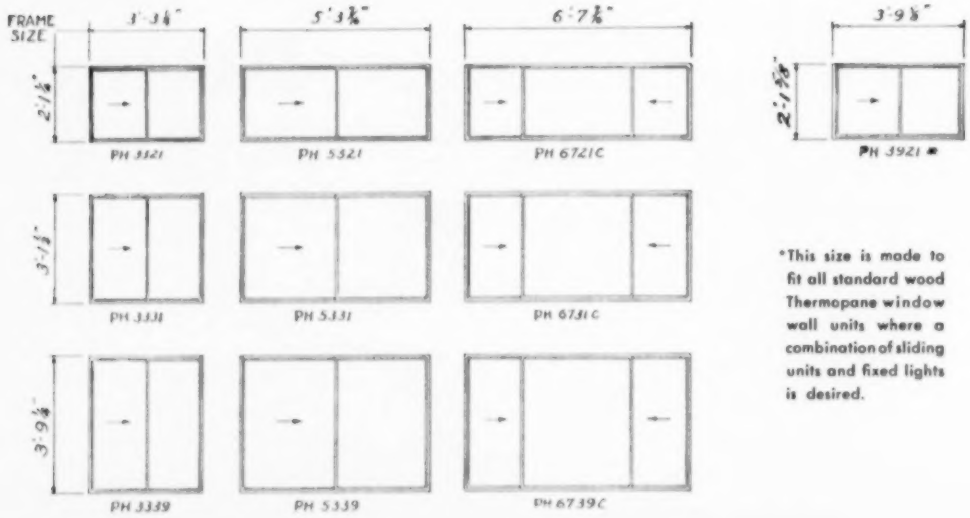
Address _____

City _____ *Zone* _____ *State* _____

NOW...RUSCO HORIZONTAL SLIDE

Rusco Horizontal Slide Windows are available in a range of sizes to fit conventional window openings. The standard unit consists of one horizontal slide glass insert with Lumite screen panel and one fixed light. Also available in composite unit with fixed picture window and sliding right and left hand ventilating flankers illustrated above.

STANDARD RUSCO HORIZONTAL-SLIDE TYPES AND SIZES



*This size is made to fit all standard wood Thermopane window wall units where a combination of sliding units and fixed lights is desired.

TUBULAR STEEL WINDOWS!

New Addition to Prime Window Line Makes Ideal Treatment For Added Wall Space, Bedroom and Bathroom Privacy, Above Sinks, Etc.

The F. C. Russell Company has now applied the proven engineering principles of its widely-accepted vertical-slide Prime Window to a new line of Horizontal Slide Windows. These Horizontal Slide Windows offer the same exclusive features and advantages. Frame and window members are of streamlined, rigid, tubular galvanized steel, bonderized and finished with baked-on outdoor enamel. They are supplied as completely finished assemblies and provide the same ease and speed of installation and convenience during construction.

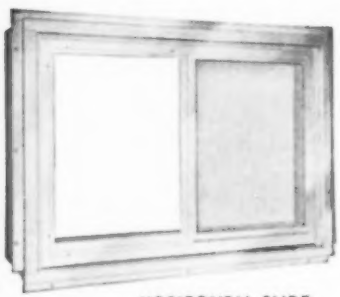
Rusco Horizontal Slide Prime Windows ideally meet design and construction requirements for high window placement, such as in ranch type houses, wherever added usable wall space is desired, and in hard-to-reach places such as over sinks, bathtubs, etc. They assure greater ease of operation at shoulder-high or head levels.

Rusco Prime Windows Are Fully Pre-Assembled Factory-Painted, Hardware Attached — All Ready to Install in Window Opening!

GLASS • SCREEN
BUILT-IN WEATHERSTRIPPING
INSULATING SASH (Optional)
WOOD OR METAL CASING
...OR STEEL FINS

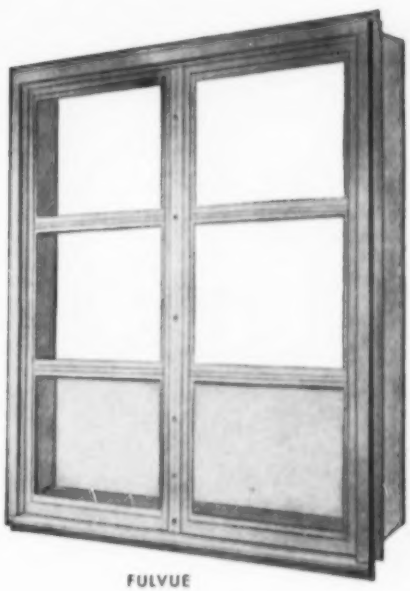
all in one unit!

Sliding Glass and Screen Inserts easily removed from inside for convenience in cleaning. The Rusco removable sash feature has tremendous appeal as a convenience and safety feature.



HORIZONTAL SLIDE

VERTICAL SLIDE



FULVUE

RUSCO Galvanized Steel PRIME WINDOWS

FOR COMPLETE SPECIFICATIONS AND ILLUSTRATED CATALOG, WRITE

Department **7-PA53** THE F. C. RUSSELL COMPANY • Cleveland 1, Ohio • In Canada: Toronto 13, Ontario

new horizons
for architects in planning fluorescent lighting

three ways to install

1. **recessed.** Only the luminous Plexiglas is visible, depth 2½" from ceiling line.

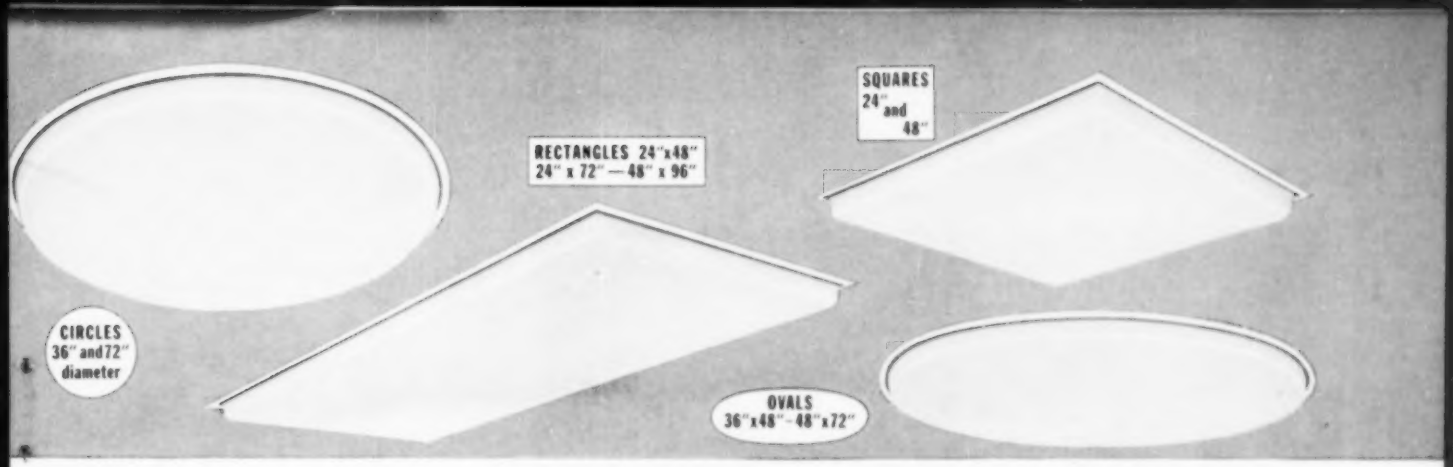
2. **surface-mounted.** Variform luminaires hug the ceiling and blend in harmoniously. Depth only 6¼" from ceiling line.

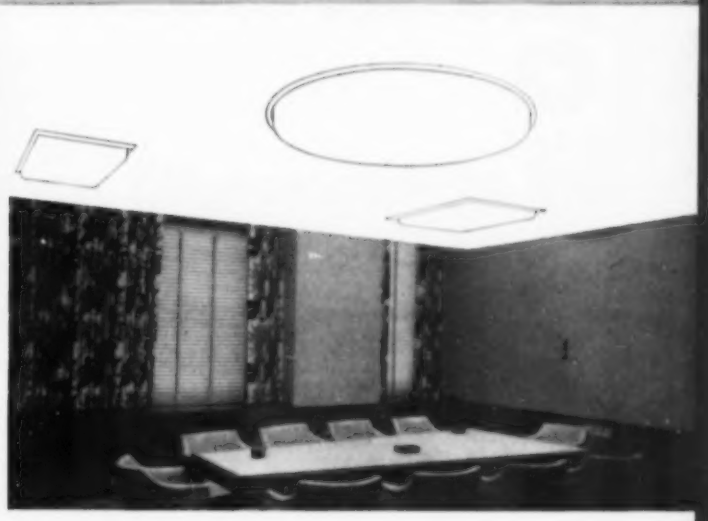
3. **suspension-mounted.** Hangers can be placed to give perfect support to even the largest fixtures.

ARE you, as an imaginative designer, often frustrated by the conventional louvered "boxes" that house the fluorescent lamp? Sometimes, after planning a beautiful room, original and distinctive, do you despair in your efforts to design a harmonious lighting effect?

Shown here is a completely new and dramatic development in fluorescent lighting—a designer's dream come true! The Variform uses soft, lovely, molded Plexiglas—circles, ovals, rectangles, squares—in a choice of sizes ranging up to eight feet in length.

We call this revolutionary luminaire the LPI Variform, its name derived from the fact that it supplies such a variety of forms for you to work with. Think of the possibilities for striking arrangements in perfect harmony with the dominant motif of the room! There is no limit to the original effects you can achieve. Truly, New Horizons invite you in this handsome and versatile new luminaire—the LPI Variform.





circles · ovals · rectangles · squares

in beautiful Plexiglas

— new freedom in creating harmonious designs

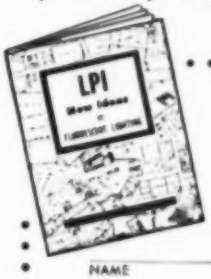
LPI VARIFORM

LIGHTING PRODUCTS, INC., HIGHLAND PARK, ILL.

Variform shapes combine harmoniously with recessed troffers, incandescent down-lights and other standard equipment. Only standard straight fluorescent lamps are used.

Plexiglas absorbs less than 1% of luminous energy. Shatterproof, it will give many years of trouble-free service. Guaranteed not to sag, warp, lose shape or to discolor. Light in weight, easy to handle. Quickly cleaned with damp cloth, using mild detergent and water. Number of lamps used inside fixture is determined by degree of light output required.

mail coupon now for complete set of Variform drawings and specifications. You will also receive the latest LPI catalog, fully illustrated with photographs and drawings, *"New Ideas in Fluorescent Lighting."*



Lighting Products, Inc.
Dept. G, Highland Park, Illinois

Please send me, free and without obligation, complete set of Variform drawings and latest LPI catalog.

NAME _____ TITLE _____

FIRM NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

p/a is read by

the world's largest architectural audience

Every month more members of the architectural profession seek information and inspiration from PROGRESSIVE ARCHITECTURE than any other magazine. P/A is preferred by architectural men in every professional category.

p/a is first in Architects and Engineers 23,266

p/a is first in Designers and Draftsmen 10,135

Total — World's largest professional architectural audience . . . 33,401*

**From Publisher's Statement, December 31, 1952*

HOW PROGRESSIVE ARCHITECTURE SERVES ITS 33,400 PROFESSIONAL SUBSCRIBERS

P/A is completely dedicated to your professional needs. Our 7-point editorial program makes P/A the only magazine with regular editorial features covering every major aspect of architectural practice:

1. Preliminary Design Stage

Progress Preview—sketches, renderings, models, discussion of program problems.

Special Issues—analysis of economic and design problems in new building types.

Fields of Practice—case studies of design of specialized building types.

2. Technical Service

Materials and Methods—articles on materials, products and equipment, construction methods, heating & ventilating, lighting, etc.

Technical Analysis—related materials and methods discussion along with major building presentations.

Specifications—data and analysis.

Product News—editorial selection and evaluation.

Manufacturers' Literature—two full editorial pages.

3. Final Design Stage

X-ray Analysis—penetrating analysis of important buildings.

Critiques—critical analysis and comparison of outstanding examples in a building type.

Building Presentations—all building types, large and small, urban and small-town, residential and non-residential.

Streamlined Specifications—discussions and examples of good specifications.

Selected Details—examples of best detailing.

Spec Small Talk—regular column on specification matters.

4. Business Service

Office Practice—series on business problems.

Public Relations—continuing series for the architect.

It's the Law—regular column on architectural legal problems.

Architect & His Community—case studies of successful, influential architects.

Fields of Practice—case studies of successful practice in specialized fields.

5. Interior Design Service

Interior Design Data—data listing and analysis of specific room types each month.

Interior Design Products—three full editorial pages of product news.

6. Related Design Service

Articles—discussion and examples of landscape architecture, sculpture, painting, ceramics, etc., related to architecture.

7. Professional Relations

Out of School—column on architect training in the office.

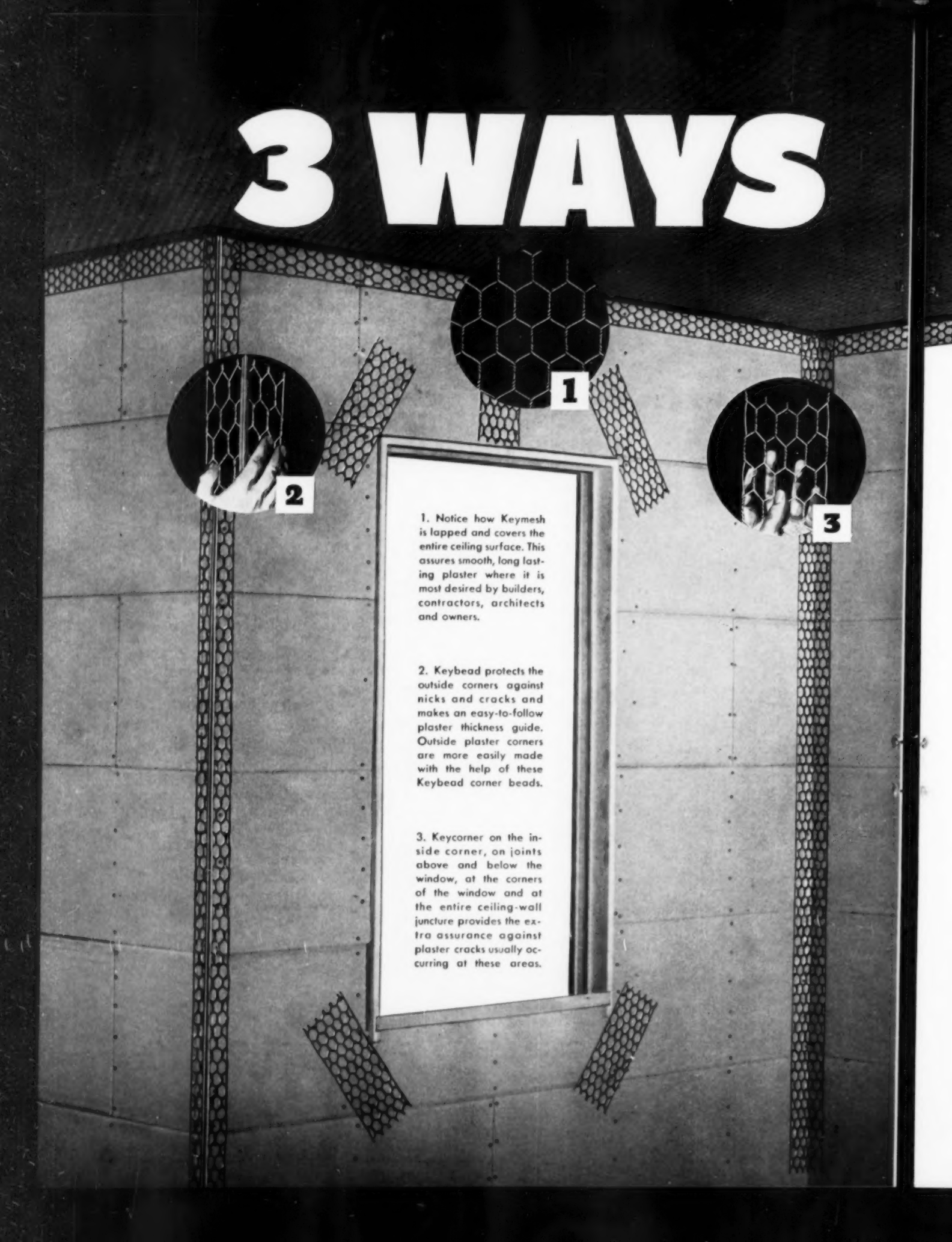
P.S.—column of editorial opinion and comment—personal and controversial.

Views—opinions from readers.

Newsletter—brief, concise architectural news analysis.

result: THE ARCHITECTURAL PROFESSION VOTES **pa first!**

3 WAYS



1. Notice how Keymesh is lapped and covers the entire ceiling surface. This assures smooth, long lasting plaster where it is most desired by builders, contractors, architects and owners.

2. Keybead protects the outside corners against nicks and cracks and makes an easy-to-follow plaster thickness guide. Outside plaster corners are more easily made with the help of these Keybead corner beads.

3. Keycorner on the inside corner, on joints above and below the window, at the corners of the window and at the entire ceiling-wall juncture provides the extra assurance against plaster cracks usually occurring at these areas.

to guard against plaster cracks

1 KEYMESH on ceilings

2 KEYBEAD on outside corners

3 KEYCORNER on inside corners, joints and ceiling-wall junctures

KEYMESH applied on the entire ceiling area of any room assures more crack-resistant plaster surfaces. Because stresses and strains are distributed more evenly, longer plaster life results. There is no limit to the interior design and construction possibilities when ceilings are completely Keymesh reinforced. Keymesh also provides strong plaster reinforcement, with desirable heat transfer properties, for ceiling radiant heat installations.

KEYCORNER applied at corners, joints and ceiling-wall junctures prevents future plaster crack troubles. Its preformed-for-corners, convenient width and easy-to-handle features provide fast, economical reinforcing exactly where needed. It snaps into corner shape by merely flexing the cut piece. And, Keycorner lies flat, too, for flat joint reinforcing.

KEYBEAD produces strong, economical "true" outside plaster corners. The open-mesh design of the Keybead wings permits plaster to flow through the steel wires and give a generous bond of plaster to lath . . . a solid plaster corner results. This thorough steel wire embedment combined with the true-formed bead makes strongly reinforced, more highly crack-resistant outside plaster corners.

THE COMBINED USE of Keymesh on the entire ceiling area with Keycorner at inside corners and joints and Keybead on outside corners, results in trouble-free, lasting plaster beauty . . . a valuable selling advantage to plasterers, lathers, builders, contractors and architects alike. It promotes greater owner satisfaction—more *quality* plaster jobs.

KEYMESH	KEYCORNER	KEYBEAD
3′ and 4′ widths, 150-ft. rolls, Galvanized	4″, 5″ and 6″ widths 150-ft. rolls, Galvanized	7′, 8′, 9′, 10′, 12′ lengths 2½″ wings, Galvanized. Packed in convenient cartons

Other gauges and sizes available

KEYSTONE STEEL & WIRE COMPANY

Peoria 7, Illinois

KEYMESH • KEYCORNER • KEYBEAD • KEYSTONE NAILS • KEYSTONE WELDED WIRE FABRIC • KEYSTONE TIE WIRE • KEYSTONE NON-CLIMBABLE FENCE • KEYSTONE ORNAMENTAL FENCE

4293 Bandini Blvd. Los Angeles 23, Calif. | 930 19th Ave. Oakland 6, Calif. | 1800 N.W. 16th Ave. Portland 9, Oregon | 1544 First Ave., South Seattle 4, Washington

THE F. W. WAKEFIELD BRASS CO.
Vermilion, Ohio

Please send me a copy of your book on the Wakefield Ceiling.

Name.....
Title.....
Firm.....
Address.....
City.....State.....

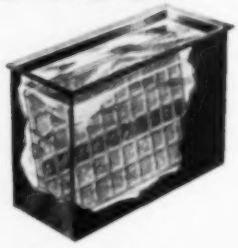
To know all there is to know about this *patented, packaged, proven* means of providing total luminous-acoustical environments you must have this book. A copy is waiting for you.

THE BEST PROTECTED DOOR IN AMERICA

Crawford MARVEL-LIFT GARAGE DOOR

protected by

Magi-Cote



toxic, liquid seal which protects wood fibers against moisture, termites, fungus, dry-rot. Each door section individually dipped for three minutes.

and **Zin-Cote**

pure zinc plating on all small hardware attached to the door, including ball-bearing rollers, making them rustless, self-lubricating and twice as durable.

Have you received your copy of the latest Crawford 60-Second Door Selector?

Crawford Door Company
115-20263 Hoover Road Detroit 5, Michigan

architects... *Here's down-to-earth information about* Smoothedge® *tackless carpet installation*

Send coupon for your FREE copy today

SIMPLIFY SPECIFICATION – SUPERVISION. GUARANTEE PERFECT WALL-TO-WALL CARPET INSTALLATION

31 pages of precise information explain exactly how the carpet installer *must* install wall-to-wall carpet with SMOOTHEDGE. This free book tells you every detail of the SMOOTHEDGE installation technique with both words and photographs. It will make your supervision easier. You'll save time and trouble and give your clients perfectly installed carpet.

THIS IMPORTANT DATA AT YOUR FINGER-TIPS:

- *How* SMOOTHEDGE *works*
- *Installing carpet on wood or concrete floors with* SMOOTHEDGE
- *Types of carpet tools and how they should be used.*
- *Carpet installation around fireplace hearths, curved areas, at doorways.*
- *Carpet installation with* SMOOTHEDGE *on all types of stairways.*

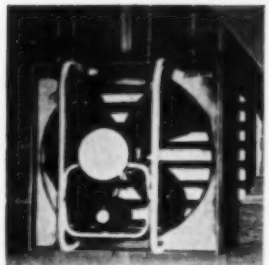
THE ROBERTS CO.

Guaranteed by Good Housekeeping

THE ROBERTS CO., Dept. PA-35
1536 N. Indiana Street, Los Angeles 63, California
Please send my free copy of the SMOOTHEDGE installation manual.

Name_____
Address_____
City_____ Zone____ State_____
Note: In Canada write Box 129, Weston, Ontario, Canada

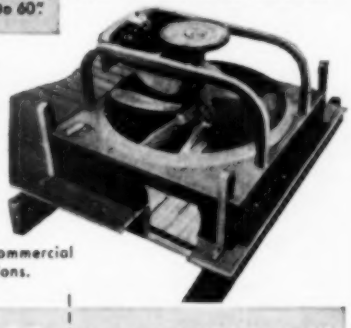
QUIET-SPRING MOUNTED
CHELSEA
RESIDENTIAL and COMMERCIAL
FANS -for complete comfort cooling!

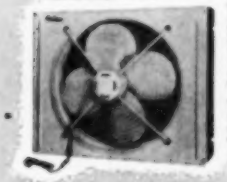


TYPE EHB COMPLETE PACKAGE UNIT, WALL-MOUNTED COMFORT COOLER — For cooling homes, offices, stores, restaurants, churches and shops. Eleven sizes 24 to 60".

Quiet operation, quick and convenient installation, high air deliveries and certified ratings are all features of Chelsea's spring mounted comfort coolers for the home and for commercial applications. Complete package units including fan, springs, supports, automatic shutter and canvas boot which forms anti-vibration seal between fan and attic wall or floor. See your Chelsea distributor, now!

TYPE EVB COMPLETE PACKAGE UNIT, FLOOR - MOUNTED COMFORT COOLER— For vertical discharge installation especially recommended where space is limited between ceiling and roof. Five sizes 24" to 48". Also, Type INEV for commercial and industrial installations.





TYPE WM 20 WINDOW FAN FEATURING HIGH AIR DELIVERY— Quiet operation; equipped with two speed switch and adjustable panels.

TYPE WPJ 12 WINDOW FAN WITH ADJUSTABLE PANELS, TWO SPEEDS — Chelsea junior size fan for homes, offices, apartments and stores.

WRITE FOR LITERATURE on all residential and commercial installations address Dept. C-5,

This is your symbol of certified ratings →

This is your symbol of quality ↙

CHELSEA FAN & BLOWER CO., Inc.
PLAINFIELD, NEW JERSEY

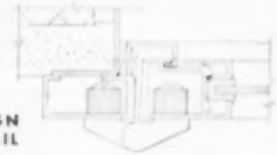
more than meets the eye

● **ELKHART'S**

extruded aluminum door combines extra rigidity with striking cabinet design...

It's the unseen feature of Elkhart's new Fire Hose Cabinet that has made the simplicity of its design so sound and practical. Behind its satin smooth trim is an exclusive patented mechanical joinery on the door rail assembly that gives rigidity unequalled in fire hose cabinet doors today.

CORNER SECTION



DESIGN DETAIL

Complete literature on request

ELKHART BRASS MFG. CO., Inc.
ELKHART, INDIANA

Featured in Marcel Breuer's Model House at Museum of Modern Art, New York

Adaptable to any plan

GOULD

ALUMINUM I-BEAM CURTAIN TRACK

ARCHITECTS' CHOICE—because it is so adaptable to any window or wall treatment on your drawing board. Saves time, saves labor. Flexible, self-forming, it can be bent easily right on the job without kinking or distortion. This saves time previously lost in extra, at-factory bending. Can be curved to a radius as small as 1 1/8". Only one workman needed for long installations. Curtains traversed by hand or draw cords. Operates smoothly, easily, quietly.

Write for our complete catalog TODAY.

The Gould-Mersereau Co., Inc.

35 West 44th St., New York 36

Gould Hardware is featured in Sweets' Catalogs, Series #19 E/GO & #4 f/GO.

Ideal for open plan kitchens

CURTIS Woman-Designed cabinets!

Last minute styling—last minute convenience—your clients get *both* when you specify the new Curtis kitchen units. These smart, flush-faced wood cabinets embody 53 modern beauty and convenience features. Curtis cabinets fit any size of space—are available in natural birch or finish coated in white, ready for the owner to decorate. For information, write

1865 CURTIS WOODWORK

CURTIS COMPANIES SERVICE BUREAU

Dept. PA-5, Curtis Building

Clinton, Iowa

Tropical Splendor

The beauty of the South Seas is no more enchanting than when this tropical splendor is captured by the unlimited magic of Kaufmann & Fabry photomurals.

The application of Mural Magic is fully described in our illustrated brochure. It's yours without obligation. Write Dept. PA-3 today.

KAUFMANN and FABRY CO.

425 S. Wabash Avenue

CHICAGO 5, ILLINOIS

PREFERRED FOR EVERY TYPE OF INSTALLATION

Moulflex

IMPROVED VINYL-PLASTIC TILE FLOORING

- Available in both low-cost standard gauge and 1/8" heavy-duty thickness.
- Vinyl-Plastic throughout—no felt backing.
- Lasts for years!
- Can be installed on, above or below grade.
- Resists dirt, grease, acid, alkali and fire.
- 13 striking color combinations.

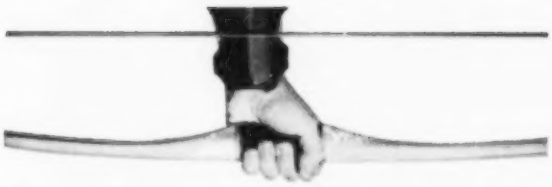
Write today for full details!

DEPT. M9-5

Moultile FLOORING SINCE 1929

MOULTILE, INC.

Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.



for greater accuracy

sharper, clearer prints you get *greater accuracy* in your tracings with Venus because every Venus drawing pencil is *Colloidal Processed*. In this exclusive, patented process, clay and graphite are exploded into particles finer than the finest French talc, to produce a line of greater density ...perfect consistency.

holds a point longer *Colloidal Process* enables tighter packing of clay and graphite — produces stronger lead that won't flake or chip.

more accurately graded all 17 degrees in Venus pencils are hand-graded by experts ...every lot is measured against unvarying, time-proven standards to insure the exact degree of hardness you select. *For all standard lead holders —Venus refillable lead.*

Try VENUS—Send for Venus Drawing Technical Test Kit. See for yourself how Venus gives crisp, clean tracings, sharper, clearer prints.

Venus... trademark of fine craftsmanship in pencils

VENUS drawing pencils

American Pencil Company, Hoboken, N. J.

NATIONWIDE SCHOOL BUILDING BOOM!

Architects--Builders Hail New Roof Construction Methods

East Side High School—Marietta, Georgia

Campbell High School—Smyrna, Georgia

South Cobb High School—Austell, Georgia

EACH OF THESE MODERN SCHOOLS, DESIGNED BY BOTHWELL & NASH, MARIETTA, GA., FEATURES ROOFS OF ZONOLITE CONCRETE USED OVER STEELTEX.

ZONOLITE® Concrete Roofs Combine Built-in INSULATION • FIRE SAFETY • PERMANENCE

All over the country, school construction is reaching new peaks. In the South, for example, the architectural firm of Bothwell & Nash recently selected ZONOLITE Concrete for the modern Georgia high schools above.

For any type of light construction, there are *two* important ways to get Zonolite benefits:

1. For roof decks—Here ZONOLITE Concrete provides insulation built right into the roof deck. Poured over paper-backed wire mesh, high-rib lath or other suitable forms, it eliminates the need for additional roof insulation.

2. For roof insulation—Poured over existing roofs, such as structural concrete, metal or wood, ZONOLITE insulation is permanent and firesafe. Provides the ideal surface for built-up roofing.

Why not investigate the many *plus* benefits that this latest method of roof construction can give you on *your* next job. Send for FREE booklet with complete details and specifications for ZONOLITE Concrete roofs. Use handy coupon below.

MAIL COUPON TODAY **FREE BOOKLET** to architects and builders

ZONOLITE ... VERMICULITE AGGREGATES

ZONOLITE COMPANY, Dept. PA-53
135 S. LaSalle St., Chicago 3, Ill.

Please rush your new booklet CA-2 on Zonolite concrete roof decks and roof insulation.

Name.....

Firm.....

Address.....

City.....Zone.....State.....

☐ Architect ☐ Contractor ☐ Other.....

Watrous

Liquid and Lather

SOAP DISPENSERS

the most complete and adaptable line on the market

Long known and long respected, Watrous Soap Dispensers cover every need — from individual wall or lavatory dispensers to valves, tanks and fittings for gravity systems. Made of finest materials, and refined through years of experience, the Watrous line assures dependable, trouble-free service.

See our Catalog in Sweets

Write for catalog. Your local Watrous representative will be glad to cooperate with you in any way possible.

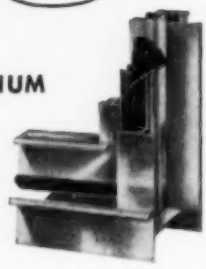
THE IMPERIAL BRASS MFG. CO.
1222 W. Harrison St., Chicago 7, Ill.

Made by the makers of WATROUS Flush Valves

QUALITY APPROVED

Adlake

ONLY ADLAKE ALUMINUM WINDOWS GIVE ALL THESE "PLUS" FEATURES:



- **Woven-pile Weather Stripping and Exclusive Patented Serrated Guides**
- **Minimum Air Infiltration**
- **Finger-tip Control**
- **No Painting or Maintenance**
- **No Warp, Rot, Rattle, Stick or Swell**

THE

Adams & Westlake

COMPANY

ELKHART, INDIANA

Established 1857 • New York • Chicago

For Air Conditioning and Refrigeration

You Specify Satisfaction When You Specify . . .

Curtis

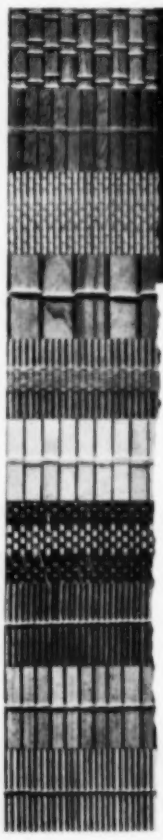
PACKAGE and REMOTE UNITS

Information in SWEET'S

Backed by Almost a Century of Experience

For Your Copy of New Architect's Manual Write:

CURTIS REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Company 729
1966 KIENLEN AVENUE • ST. LOUIS 20, MISSOURI



TROPICRAFT *Woven Woods*

Your source of loomed woods in VARIETY from around the world!

1. At windows, skylights, for BETTER LIGHT CONTROL!
2. To wall or divide, with LESS BULK AND COST!
3. To close, aerate closets, SAVE SPACE, EXPENSE!
4. To LAST, YET LOWER MAINTENANCE, wherever specified!

MOBILE WALL

AS CLOSURE

LIGHT CONTROL

TROPICRAFT Woven-Woods* offers you new textures...new beauty and versatility...a variety of wooden yardage loomed from imported walnut, pine and a host of others, combining the stability of wood with the fluidity of the finest fabric.

You can specify TROPICRAFT WOVEN-WOODS* with confidence, as do others, for installation in homes, commercial and institutional installations throughout America. Available in widths to 12', any length... in natural or painted to order.

WRITE TODAY: for Swatches, Colors, Prices
TROPICRAFT of San Francisco
Dept. PA/5/53, 14 Sherwood Place, S.F. 3

for lightweight concrete . . . use

WAYLITE Aggregate

SAVE UP TO 35% IN DEADWEIGHT . . . DESIGN UP TO 4,000 PSI

When you want a lightweight structural concrete with adequate strength, specify the use of Waylite.

Waylite is a cellular aggregate made by processing molten slag. Its air cells are completely sealed giving lightness and strength. Design for strength with Waylite as in ordinary plain or reinforced concrete. Handles similarly. Approved by Board of Standards and Appeals, New York City. Waylite Concrete 2,000 psi weighs 100 pounds per cubic foot . . . 4,000 psi Waylite weighs 108 pounds.

Waylite offers many important economies and advantages in structural design. Also widely used as floor and roof fills. See data in Sweet's—for additional information and quotations write The Waylite Co., 105 W. Madison St., Chicago 2, or Box 30, Bethlehem, Pa.

WAYLITE

calculite...

crisp design, controlled lighting

ALUMILITE REFLECTOR, with Colouvred* Fresnel type lens supplies intensive, yet soft, down light.

REGRESSED LENS removes glare from ceiling line.

FIBERGLAS GASKET fits uneven ceilings, eliminating light and dust leaks.

TORSIONTITE spring fastener for easy relamping.

LIGHTING *by* LIGHTOLIER

For complete data, write LIGHTOLIER, INC. Jersey City 5, N. J.

*Pat'd. Reg. U. S. Pat. Off.

for your residential clients

—"HOME PLANNERS GUIDE"

A beautifully illustrated booklet showing modern entrances, lock designs and finishes, with complementary color schemes—all in full color. Written for the layman, this is an ideal folder to give your clients when hardware is being selected. Write for a supply.

SCHLAGE®

SCHLAGE LOCK COMPANY
2201 Bayshore Boulevard, San Francisco, California

106 data packed pages

FREE!

FOR YOUR READY REFERENCE FILE

CONTENTS

How to solve many construction and maintenance problems

- Construction details
- Material tables
- Weights and measures
- Horn products and methods.

This reference book with our compliments is yours for the asking. Use handy coupon.

A. C. HORN CO. INC. PA-53
Manufacturers of materials for building maintenance and construction
Long Island City 1, N. Y.
Please send me ☐ free copy of your 106-page Construction Data Handbook

NAME_____ TITLE_____

FIRM NAME_____

ADDRESS_____

CITY_____ STATE_____

sliding glass doors by *Arcadia*

the finest in design, materials & operation

arcadia

MANUFACTURED BY
ARCADIA METAL PRODUCTS
P.O. BOX 657, ARCADIA, CALIF.

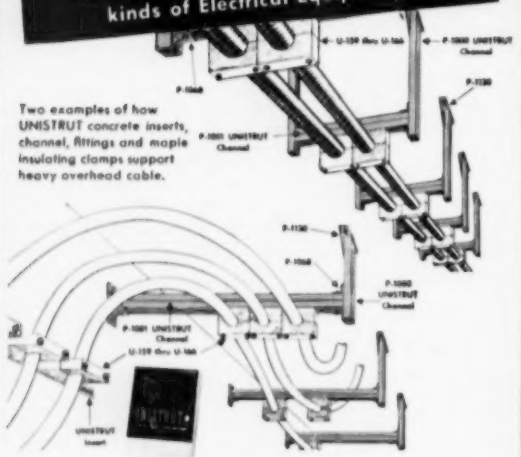
No matter how tough your problem...how tight your budget...you'll find the one **right** answer in the wide range of

GOLD SEAL®
FLOORS and WALLS

©1953 Congoleum-Nairn Inc., Kearny, N. J.

See our catalog in Sweet's Architectural File or write for copy

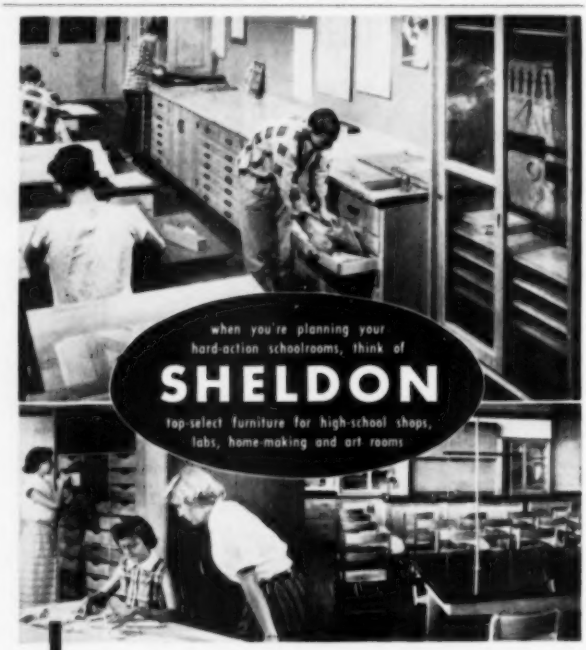
...TYPICAL **UNISTRUT**®
FRAMING APPLICATIONS
to support, suspend and mount all kinds of Electrical Equipment



Two examples of how UNISTRUT concrete inserts, channel, fittings and maple insulating clamps support heavy overhead cable.

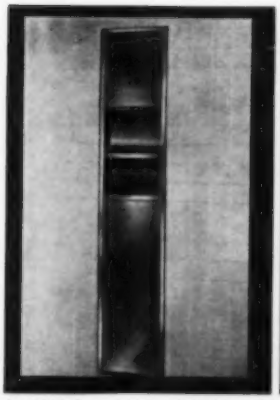
FREE! New 84-page UNISTRUT Pocket Catalog No. 800 for THE MAN ON THE JOB. Phone or write for your copy today.

UNISTRUT PRODUCTS COMPANY
1013 W. Washington Blvd.
Chicago 7, Illinois

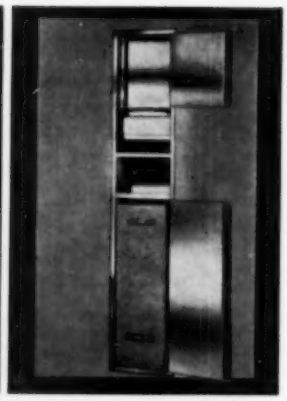

when you're planning your
hard-action schoolrooms, think of
SHELDON
top-select furniture for high-school shops, labs, home-making and art rooms

Call in the Sheldon Man to Help You Plan

E. H. SHELDON EQUIPMENT COMPANY
MUSKEGON, MICHIGAN



No. 945 Recessed Towel Cabinet & Waste Receptacle...fabricated of stainless steel . . . designed for efficiency.



Removable waste receptacle. Towel compartment dispenses approximately 400 "C" type folded towels.

For *really* modern washrooms—

the Scott No. 945 Recessed Towel Cabinet and Waste Receptacle

Here's the fixture designed specifically to meet today's growing trend to recess fixtures.

For a detailed dimension and installation drawing of the No. 945 fixture or for the help of a trained Scott consultant, write Washroom Advisory Service, Dept. PA-5, Scott Paper Company, Chester, Penna.

SCOTT

Symbol of Modern Washrooms

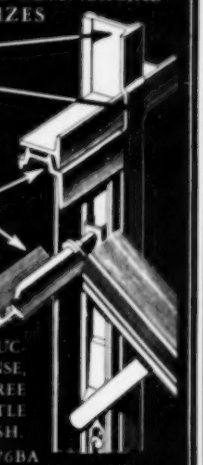
Trade Mark "Washroom Advisory Service" Reg. U. S. Pat. Off.

The Name **HOPE'S** *Guarantees*

Lok'd Bar

FACTORY SASH

IN STANDARD PIVOTED AND COMMERCIAL PROJECTED TYPES AND SIZES



HOPE'S BULB TEE AND HOPE'S LOK'D BAR JOINT PROVIDE ENORMOUS STRENGTH

HOPE'S VENTILATORS ARE BUILT AS COMPLETE SOLID WELDED CASEMENTS AND FRAMES

HOPE'S DO NOT RELY ON SHEET METAL LINERS FOR WEATHERINGS BECAUSE CORROSION LOOSENS AND DESTROYS THEM

HOPE'S BETTER DESIGN & CONSTRUCTION REDUCE MAINTENANCE EXPENSE, SAVE HEAT, PROVIDE TROUBLE-FREE WINDOWS . . . FIRST COST IS LITTLE MORE THAN FOR ORDINARY SASH.

ASK FOR CATALOG NO. 76BA

World's Finest Factory Sash

HOPE'S WINDOWS INC., JAMESTOWN, N. Y.

It's

for Distinctive **ARCHITECTURAL HARDWARE**

Manufacturers for 27 years of quality Specialty Builders Hardware in Brass, Bronze, Aluminum and Stainless Steel. Originators of Packaged metal and Panelyte Kick and Push Plates.

Catalog on Request

CIPCO CORPORATION

22nd and COLE STREET • ST. LOUIS 6, MISSOURI

A NEW CONCEPT in *Light Control*

a complete line for every . . .

- HOME
- OFFICE
- THEATRE
- STORE
- CHURCH
- LODGE
- HALL
- BANK
- CAFE
- HOTEL

with **POWERSTAT**

Light Dimming EQUIPMENT

Now, you can choose the light just right for every occasion, activity and mood. POWERSTAT Dimmers provide smooth, silent and flickerless dimming and brightening of light from full-on to blackout. Operation is cool and economical.

The line of POWERSTAT Dimmers is complete and includes manually-operated and motor-driven non-interlocking models; packaged assemblies; interlocking types; the LUXTROL system of remote control; and the WALLBOX Dimmer for mounting into a wall.

USE THE ATTACHED COUPON TO OBTAIN COMPLETE INFORMATION

THE *SUPERIOR ELECTRIC* CO.
4053 Demers Avenue, Bristol, Connecticut
Please send literature on POWERSTAT Dimmers.

NAME _____
POSITION _____
CO. NAME _____
CO. ADDRESS _____
CITY _____ ZONE ____ STATE _____

HAWS

has the ANSWER

...for every specification requiring a public source of refreshing, sanitary drinking water.

RESTAURANT WATER COOLERS
ELECTRIC WATER COOLERS
DRINKING FOUNTAINS
DRINKING FAUCETS

Single and multiple units to fit your requirements. Beauty to match the decor of any design. The utility you demand. Backed by a reputation for reliability since 1909.

See Sweets or write for the new HAWS Catalog

HAWS DRINKING FAUCET CO.
1443 FOURTH STREET · BERKELEY 10, CALIFORNIA

MIA

Membership in
The Marble Institute of America, Inc.,
is your guarantee that materials
and methods used in marble installations
conform to the highest possible standards.
Patronize your local MIA member.
For membership list, information
or literature describing
marble availability, uses, write:

MARBLE MIA INSTITUTE OF AMERICA, INC.
108 FORSTER AVENUE, MOUNT VERNON, N Y

you can **see** that

Trinity White

is the **whitest**

...white cement!

You'll get fine results with this extra white cement. It's true Portland Cement made to ASTM and Federal Specifications. If your dealer does not have it, write the office nearest you: Trinity Portland Cement Division, General Portland Cement Co., 111 West Monroe St., Chicago; Republic Bank Bldg., Dallas; 816 W. 5th St., Los Angeles.

as white as snow

the ventilator with the high I.Q.*

A lot of electric exhaust fans look like this,

BUT...

BLO-FAN alone has THE blade which combines the power of a blower with the volume of a fan.

* INSIDE QUALITIES

pryne
rhymes with FINE...and means it!

BOX P-53 POMONA, CALIFORNIA
EASTERN FACTORY: KEYSER, WEST VIRGINIA

Next month, see
the Crane advertisement
showing
winning bathroom design
from the big
Crane Architectural
Competition for
bathrooms, kitchens
and utility rooms

Complete Plumbing
and Heating Equipment
for every need

CRANE CO.

General Offices: 836 S. Michigan Ave., Chicago 5
VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

mitchell lighting

easiest to install!

easiest to specify!

Save time, specify properly—
select MITCHELL *quality* lighting,
designed for time-saving
installation, low-cost maintenance, highest efficiency.
For easy planning, write for
these two data-packed
MITCHELL catalogs.

SEND
FOR BOTH

"Dynalite" Lighting for Industry
You'll find it easy to specify for any industrial installation. Choose from 82 *Dynalite* Job-Rated units...

Commercial Fluorescent Lighting
More than 70 superb Commercial Luminaires, described in detail—for quick, proper specification...

MITCHELL MANUFACTURING COMPANY
2525 N. Clybourn Ave. • Dept. 5-E • Chicago 14, Illinois

COMPLETE LINE
OF QUALITY FLUORESCENT
AND SLIMLINE FIXTURES
FOR EVERY REQUIREMENT...
COMMERCIAL & INDUSTRIAL
BY
WILEY
Pioneers in Fluorescence
Since its Inception

- Modern, functional designs to harmonize with any architectural motif.
- Stock fixtures adaptable for all lighting layouts.
- Units designed for quick, easy erection. A minimum of "on-the-job" assembly.
- Patented E-Z Servicer.
- District Sales Engineers available for prompt cooperation.

Designed and completely manufactured by WILEY, with ETL Certified Electrical Components

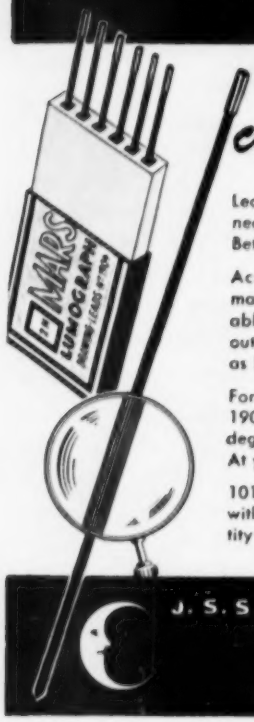
For Full Information, write
R&W WILEY, INC.
Dearborn at Bridge St.
Buffalo 7, N. Y.
Underwriters' Approved
IBEW (A F of L) Label
Fleur-O-Lier Certified Models

Architectural Concrete

lends itself equally well to modern structures like the Portland Cement Association's research laboratories or to classic or Gothic. Architectural concrete produces enduring and majestic edifices of any size, design or style when the simple and time-tested principles of quality concrete construction are followed.

PORTLAND CEMENT ASSOCIATION
33 W. Grand Ave., Chicago 10, Ill.
A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work

MARS LUMOGRAPH *Imported*



DRAWING LEADS *cost no more!*

Lead is so opaque that inking in is not necessary. No flaking or smudging. Better reproductions.

Accurately graded and plainly marked as to degree. Has a removable cap to prevent lead from sliding out of pencil. Clutch holds securely as leads are ribbed.

For economy through quality, use 1904 MARS LUMOGRAPH leads. 18 degrees of hardness. 60¢ a box of 6. At your dealer's or write us.

1018 Mars Lumograph Artist Pencil with sharpener cap — $1.00. Quantity discounts.

J. S. STAEDTLER, INC.
55 WORTH STREET
NEW YORK 13, N.Y.

Archie Bows to...

Church Lighting by GRUBER.

Custom designed for individuality, but reflecting carefully traditional church motifs. GRUBER Church Lighting combines correct illumination with proper dignity. You can be design and quality sure when you specify GRUBER.

For complete details, illustrations and specifications write for 12 page Church Lighting Folio

Gruber LIGHTING
125 SOUTH FIRST STREET, BROOKLYN 11, N. Y.

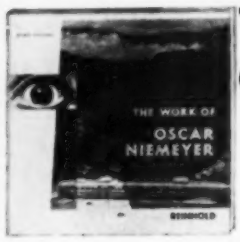
U.S. AIRCO
EVERYTHING IN AIR CONDITIONING

Designers and manufacturers of a complete line of cooling, heating, ventilating and refrigerated air conditioning equipment for jobs you can be proud of

Address Inquiries to Dept. PA 553

Blowers
Individual Room Cooling And Heating Units
Window Units
Evaporative Condensers
Packaged Central Station Air Conditioners
Store Conditioners
Unit Air Conditioners
Gas Unit Heaters
Blower Unit Heaters
Coils

U.S. AIRCO
UNITED STATES AIR CONDITIONING CORP.
MINNEAPOLIS 14, MINNESOTA



The Work of Oscar Niemeyer

Edited by STAMO PAPADAKI

Photographs, Plans & Details Illustrating Niemeyer's Life Work

230 pages—profusely illustrated—
9 x 9" $10.00

COVERING:

Homes	Apartment Houses	Stadiums
Schools	Office Buildings	Integrated Arts:
Hotels	Public Buildings	Sculpture
Churches	Casinos	Ceramics
Theatres	Banks	Murals
Hospitals	Restaurants	Details

1. Niemeyer's architecture is acclaimed far and wide for its unusual beauty and utility. His Ministry of Education building alone is famous the world over. Architects, engineers, designers and draftsmen will find inspiration and a wealth of practical information in this handsome volume.

2. The book includes all of Niemeyer's better known designs as well as many old and new works that have never before been published. Details of the work of sculptors, ceramists, muralists and other artists such as Portinari, Lipchitz, Ceschiatti, Giorgio and Viereck are presented. These artists and many others worked with Niemeyer to help produce his very successful examples of integrated art and architecture.

Write today for your 10-day-FREE examination copy

REINHOLD PUBLISHING CORPORATION

Dept. M-520, 330 West 42nd Street, New York 36, N. Y.

You can CHANGE YOUR MIND with this drain

FREE folder on LEVELEZE DRAINS shows how to avoid costs generally involved in changing floor levels

The Josam LEVELEZE drain is the one drain that enables you to change your mind about the finished floor level without tearing up the pipe lines. The adjustable top can be raised or lowered to the new level by simply turning the top. Saves time, saves inconvenience, saves cost—gives you more freedom in planning. Made in a wide range of types. Get complete details by sending coupon below today.

JOSAM MANUFACTURING COMPANY
Dept. PA Michigan City, Indiana

Please send free literature on LEVELEZE DRAINS

FIRM .....
By .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....

CUT BLUEPRINTING COSTS 50% to 80%

SAVE TIME—SAVE MONEY

VERSA-LINER SPEED MASTER MODEL "S" AMMONIA TYPE WHITEPRINTER

NEW, FASTER— MORE EFFICIENT!

● *Prints up to 14 ft. per min. Develops at 8 ft. per min.* Produces black line and colored line whiteprints in volume at low cost! Handles cut sheets or roll stock up to 42" wide in any length. *Equipped with 2000 watt* high pressure Vicor jacketed lamp for greater printing speed. *Newly devised blower system* for coolest contact—protects originals. Feed, delivery and all controls in front, within easy reach. Easy to install and operate. Trouble-free. Simple to clean. Minimum maintenance. 220 v. single-phase 60 cycle AC. Priced at $1565.00. *Get full facts now.*

Also other Versa-Liner and Spee-Dee Whiteprinting Outfits for Moist Diazo or Ammonia Dry Process from $55.00

PECK & HARVEY
5620 N. WESTERN AVE. CHICAGO 45, ILLINOIS

Founded in 1937—Over 10,000 Machines in Use

MFRS. OF WHITEPRINT, BLUEPRINT AND PHOTOCOPY EQUIPMENT

Worthy of Your Consideration!

These 1953 Brochures

Are Yours For The Asking!

Write Dept. P

Natcor

a symbol of quality and service

GENERAL OFFICES TAUNTON, MASS., U.S.A.

Write for complete catalogs to: Prescolite, 2229 Fourth Street, Berkeley 10, California

SEE OUR CATALOG IN SWEET'S

A-1 Architectural
R-7 Recessed
S-2 Swivel

PRESCOLITE MANUFACTURING CORPORATION
Berkeley, Calif. ● Neshaminy, Penn.

pa DIRECTORY OF PRODUCT ADVERTISERS

Adam, Frank, Electric Co. 43
Adams & Westlake Co. 224
Adams-Rite Mfg. Co. 160
Aerofin Corp. 144
Aetna Steel Products Corp. 60
Air Devices, Inc. 201
Allen, W. D. Mfg. Co. 196
Alsynite Company of America 196
American Brass Co. 47
American Pencil Co. 223
American Radiator & Standard Sanitary Corp. 36, 151
Anemostat Corporation of America . 3rd Cover
Arcadia Metal Products 226
Armstrong Cork Co. 153
Art Metal Co., The 180

Bakelite Co., Div. of Union Carbide & Carbon Corp. 197
Bayley, William, Co. 21
Belte Products Sales, Inc. 138
Bradley Washfountain Co. 162
Brasco Mfg. Co. 57
Bruce, E. L., Co. 35

Cabot, Samuel, Inc. 168
Carrier Corporation 32, 33
Ceco Steel Products Corp. 146
Celotex Corp. 66
Chase Brass & Copper Co. 62
Chelsea Fan & Blower Co. 221
Cipco Corp. 227
Clancy, J. R., Inc. 207
Committee on Steel Pipe Research of the American Iron & Steel Institute 54
Concrete Reinforcing Steel Institute . . . 233
Congoleum-Nairn, Inc. 226
Connor Engineering Corp. 45
Crane Co. 229
Crawford Door Co. 220
Curtis Companies Service Bureau 222
Curtis Refrigerating Machine Division . . . 224

Day-Brite Lighting, Inc. 163
Dor-O-Matic Div. of Republic Industries, Inc. 161
Douglas Fir Plywood Assn. 208, 209

Edwards & Co. 190, 191
Elkhart Brass Mfg. Co., Inc. 221
Ellison Bronze Co. 152
Engineering Manufacturing Co. 226

Faber-Castell, A. W., Pencil Co., Inc. . . . 191
Facing Tile Institute 34
Federal Cement Tile Co. 55
Federal Seaboard Terra Cotta Corp. 17
Fenestra Building Products 31
Fiat Metal Mfg. Co. 166
Formica Co. 128

General Bronze Corp. 205
General Cable Co. 28, 29
General Electric Co. 44
Glynn-Johnson Corp. 46
Gould-Mersereau Co., Inc. 222
Grinnell Co., Inc. 157
Gruber Brothers, Inc. 13, 230

Haertel, W. J., & Co. 158
Hauserman, E. F., Co. 1
Haws Drinking Faucet Co. 228
Hillyard Chemical Co. 20
Hoffman Specialty Mfg. Co. 27
Holophane Co., Inc. 67
Homasote-Nova Co. 56
Hope's Windows, Inc. 227
Horn, A. C., Co., Inc. 225

Imperial Brass Mfg. Co. 224
Infra Insulation, Inc. 14
Ingersoll Products Div. 61
Inland Steel Products Co. . . . . 2nd Cover
International Cut Stone Contractors' & Quarrymen's Assn. 8
International Steel Co. 174

Johns-Manville Corp. 193
Johnson Service Co. 169
Josam Mfg. Co. 231

Kaufmann & Fabry Co. 222
Kennard Corp. 65
Kentile, Inc. 178, 179
Kewanee-Ross Corp. 176
Keystone Steel & Wire Co. 218, 219
Kimble Glass Co. 185
Kinnear Mfg. Co. 181

Laclede Steel Co. 156
LCN Closers, Inc. 183
Libbey-Owens-Ford Glass Co. . . 40, 41, 140
Lighting Products, Inc. 214, 215
Lightolier Co. 225
Lockwood Hardware Mfg. Co. 26
Lone Star Cement Corp. 68
Louisville Cement Co. 49
Loxit Systems, Inc. 198
Ludman Corp. 52, 53

Macomber, Inc. 177
Mahon, R. C., Co. 5
Marble Institute of America, Inc. 228
Master Builders Co. . . . . Back Cover
Medart, Fred, Products, Inc. 37
Medusa Portland Cement Co. 202
Metal Products Corp. 184
Metal Tile Products, Inc. 207
Minneapolis-Honeywell Regulator Co. 210, 211
Mississippi Glass Co. 142
Mitchell Mfg. Co. 229
Moultile, Inc. 222
Natcor Store Fronts 231
National Gypsum Co. 148
National Terrazzo & Mosaic Assn., Inc. . 19

Onan, D. W., & Sons 186
Otis Elevator Co. 59

Peck & Harvey 231
Pittsburgh Corning Corp. 63, 173
Pittsburgh Plate Glass Co. 24, 25
Pittsburgh Reflector Co. 154
Ponderosa Pine Woodwork 167
Portland Cement Assn. 229
Powers Regulator Co. 155, 165
Prescolite Mfg. Corp. 231
Protexol Corp. 10
Pryne & Co., Inc. 228
Pyle National Co. 6

Reflectal Corp. 187
Reinhold Publishing Corp. 175, 202, 216, 217, 230
Revere Copper & Brass, Inc. 126
Reynolds Metals Co. 203
Rilco Laminated Products, Inc. 149
Rixson, Oscar C., Co. 23
Roberts Co., The 220
Robertson, H. H., Co. 188, 189
Roddis Plywood Corp. 18
Rotary Lift Co. 38, 39
Ruberoid Co. 64
Russell, F. C., Co. 212, 213

Sanymetal Products Co., Inc. 199
Schieber Sales Co. 233
Schlage Lock Co. 225
Scott Paper Co. 227
Sedgwick Machine Works 160
Sheldon, E. H., Equipment Co. 226
Simpson Logging Co. 170, 171
Sjöström, John E., Co. 12
Staedtler, J. S., Inc. 170, 230
Steelbilt, Inc. 11
Superior Electric Co. 227
Swartwout Co., The 150

Timber Engineering Co. 164
Trinity Division, General Portland Cement Co. 228
Tropicraft of San Francisco 224
Truscon Steel Div. 42

Union Carbide & Carbon Corp., Bakelite Co. 197
Unistrut Products Co. 226
United States Air Conditioning Co. 230
United States Plywood Corp. . . 50, 51, 136
United States Quarry Tile Co. 200
United States Steel Corp. 194, 195
United Steel Fabricators Inc. 58
Universal Atlas Cement Co. 30

Wakefield, F. W., Brass Co. 220
Wasco Flashing Co. 192
Washington Steel Corp. 48
Waylite Co. 225
Webster, Warren, & Co. 2
Weis, Henry, Mfg. Co., Inc. 182
Wesix Electric Heater Co. 22
Westinghouse Electric Corp. 204
Wiley, R. & W., Inc. 229
Wilson Engineering Corp. 206
Wright Mfg. Co. 172

Youngstown Sheet & Tube Co. 159

Zonolite Co. 223

330 West Forty-Second Street, New York 36, N. Y. BRyant 9-4430

BRAD WILKIN, *Assistant Publisher and Sales Mgr.*

NEW YORK OFFICE:

EDWARD D. BOYER, *Eastern Sales Mgr.*

HAROLD D. MACK, JR., *New England District Mgr.*

WM. B. REMINGTON, *N. Y.-N. J. District Mgr.*

FRANK J. ARMEIT, *Production Manager*

CLEVELAND OFFICE:

815 Superior Ave. N.E., Cleveland 14. Prospect 1-5583

JOHN W. BATTLES, *Central Sales Mgr.*

JOHN F. KELLY, *District Mgr.*

JOHN CUNNINGHAM, *Promotion Manager*

CHICAGO OFFICE:

111 W. Washington St., Chicago 2. RAndolph 6-8497

DAVID S. HAGENBUCH, *Western Sales Mgr.*

R. J. CLAUSSEN, *District Mgr.*

WILLIAM R. EVANS, JR., *District Mgr.*

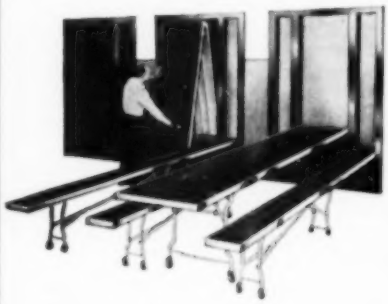
WEST COAST ADVERTISING REPRESENTATIVES

San Francisco, Calif.—Duncan Scott & Co., Mills Building, Garfield 1-7950

Los Angeles, Calif.—Duncan Scott & Co., 2978 Wilshire Blvd., Dunkirk 8-4151

In School and Community House Design — Specify the Folding Unit that Best Meets the Requirements

Combining activities and lunchroom areas saves space and reduces building costs. Now Schieber has made possible the use of folding tables and benches to meet all requirements. Restricted budgets and special seating arrangements can now be accommodated.



SCHIEBER *In-wall*

All-Steel with tables and benches attached to pockets.

In 15 years leading school architects have specified thousands of these quality units from coast to coast. Users testify to savings and complete satisfaction.

SCHIEBER *Port-a-Fold*

Plywood tops, steel legs. Units detachable from pockets.

A new low cost version of In-Wall with many quality In-Wall features. Can be rolled to any position for dining, banquet or exhibit set up.

Write for catalogs.

SCHIEBER SALES COMPANY
Detroit 23, Michigan

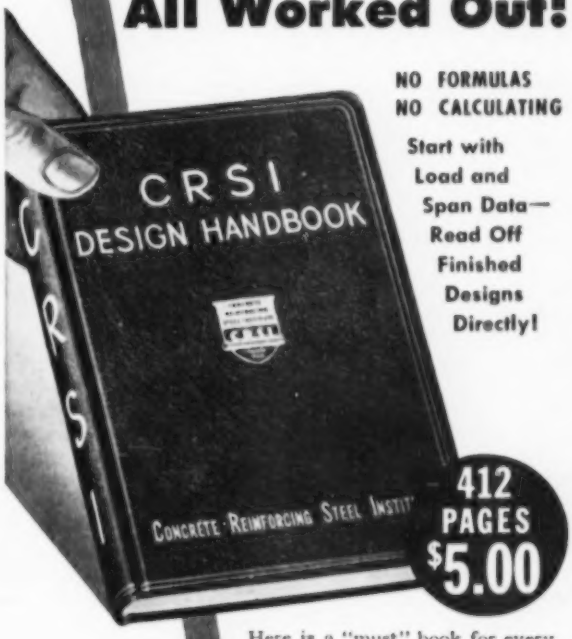
Finished Designs

OF REINFORCED CONCRETE MEMBERS

All Worked Out!

NO FORMULAS
NO CALCULATING

Start with Load and Span Data— Read Off Finished Designs Directly!



412 PAGES $5.00

PARTIAL CONTENTS

- **FLOOR SYSTEMS** Solid slabs • stair slabs • beams • concrete joists • two-way flat slabs (square panels)
- **COLUMNS** Square tied • round and square spirally reinforced
- **FOOTINGS** Square footings • pile footings • combined footings
- **RETAINING WALLS and AREAWAYS** Earth and water pressures • cantilever retaining walls • basement walls
- **MISCELLANEOUS TABLES** Bars—weights and areas, combinations, etc. • slab areas • wire mesh • design constants • beam tables • uniform loads • rigid frame values • contents of warehouses • accessories, etc.

Here is a "must" book for every engineer and designer working with reinforced concrete. It reduces design of members to simple table references, and eliminates time-consuming calculations.

"CRSI Design Handbook" has tables covering every type of reinforced concrete member, including floor systems, columns, footings, etc. You just apply load and span figures to the correct tables, then *read off directly* your concrete dimensions and steel data. Latest building codes followed. A valuable designing tool!

Prepared under the direction of the Committee on Engineering Practice

SEND FOR YOUR COPY . . . TODAY!

Concrete Reinforcing Steel Institute
38 South Dearborn St., Chicago 3, Ill.

I am enclosing $5.00. Please send me a copy of "CRSI Design Handbook." If not completely satisfied, I will return the book within ten days for a full refund. (No C. O. D. orders accepted.)

NAME _____

ADDRESS _____

CITY _____ STATE _____

P.S.

Miss Elizabeth Gordon, Editor
House Beautiful
Hearst Corporation
572 Madison Avenue
New York 22, N. Y.

Dear Elizabeth: As you must know, you have caused a great deal of furor with your editorial on design trends and "The Next America" in April *House Beautiful*. I take it that this is an opening blast in what will be a continuing campaign against "the threat to our achieving the greater good which is clearly possible for us." The threat, you evidently believe, consists of "the cult of austerity," the "less is more thesis," Mies van der Rohe, Walter Gropius, Le Corbusier, the Bauhaus influence, the International Style, "some professional magazines . . . some architectural schools, some designers," chairs that make you "uncomfortable after the first twenty minutes," certain "nonrational objects chosen for glorification by *avant-garde* museums," and in general anything that is not part of "the home-grown variety of modern design."

You were good enough to send me a copy of the magazine, as you apparently did many other people, with a note saying: "You may have been able to tell that I have been building up to some kind of a blast. I finally have broken out and said what I think. A person cannot be mad so long without finally exploding. I'll be interested to hear your reaction . . ."

My reaction is that I think many of the things you say need saying, but I feel that it is extremely dangerous, and jeopardizes the cause of good modern design to say them in this context with this emphasis. In the last few days, I have had calls from a number of architects (none of whom is a "cultist" for any sinister movement or a promoter of what you call, "unlivability, stripped-down emptiness, lack of storage space and therefore lack of possessions"). They are seriously worried about the harm that this series may do. I also hear that the A.I.A. *Journal* is going to reprint part of the editorial. I am sure that many who have been waiting for an antimodern bandwagon to climb on are by now wiring their approbation. The "home-grown" approach will appeal to many chauvinists and flag-wavers. The unfortunate juxtaposition in a boxed statement on one page of the names, "Walter Gropius . . . Communist architect Hannes Meyer . . . Mies van der Rohe" will add further to the false belief, fixed in some quarters, that "Modernism" and Communism are synonymous.

It would be easy to point to inconsistencies in the issue. I should think Wormley might be embarrassed by the fact that his interior includes one of the least successful pieces he has done—a rather ugly table which is quite obviously inspired by Isamu Noguchi. Yeon's house is not the best he has designed either, and its interiors, furnished with (home-grown?) "modern, period, and Oriental furniture and accessories" look oddly bleak compared to the rich use of materials in Mies van der Rohe's Tugendhat house which is shown on a later page as "cold, barren design." But this sort of picky criticism is not the point.

The point is, I think, that it is too easy, and too misleading, to do what you have done. It is perfectly possible to take apart a great deal of Mies's recent work, beam by beam, and point to its functional inadequacies and its façadist approach to architecture. And yet, as one architect said to me yesterday, "If Mies had never done anything but the Barcelona Pavillion, he would still be one of the greatest architects of our time." It is perfectly possible to point to the flaws in some of Corbu's work (you chose an apartment house and the Cite Universitaire dormitory in Paris; the Soviet architect Vlassov said the same things about the Centrasoyus building in Moscow, in an interview I published in our March issue). And yet, the fact remains that very little of what *House Beautiful* has published in recent years could have been designed without the pioneering, fighting, lecturing and teaching of Le Corbusier. It might be instructive to take a typical issue of your magazine and examine each piece of design you show for its debt to the people you are throwing overboard. (In this very April issue I am sure I see some Mondrian influence—what you deplore as "a school boy's exercise in cubes and rectangles.")

Under your leadership *House Beautiful* has been doing a very important job very well, in the program you have sponsored of designing to climate, and translating climatic design principles into comfortable, smoothly-functioning houses. I agree that it is shocking that so much of this research is ignored by architects who are more interested in abstract composition than in the day-to-day life of a family. I agree that students in too many schools of architecture, following the pattern of hero worship which is the inevitable component of learning great new things about basic design, are emulating the work of the abstractionists and ignoring sociological, climatological, and even emotional findings that are equally exciting discoveries of our time.

And yet, I dread seeing all this degenerate into a controversy between two "schools." You fear that the "austerity" school contains a "threat of cultural dictatorship" on the part of "the frauds, the overpublicized phonies, the bullying tactics of the self-chosen elite who would dictate not only taste but a whole way of life." Those are strong words. On the other hand, I think one could say dispassionately that *House Beautiful* reaches a great many people, and is itself a strong influence in American taste. With the violence of your attitude in the present issue, aren't you running the risk of becoming just as dictatorial?

I think I understand all the faults in the Farnsworth house, but I can take it or leave it. I don't consider it part of "a consistent attack on comfort, convenience, and functional values that . . . becomes, in reality, an attack on reason itself." I have never agreed with the rationale of the appliques steel members on Mies's apartment house in Chicago; it seems to me that the individual apartment layouts are most inconvenient for family living; and I certainly wouldn't want to face the glare from Lake Michigan through the unprotected glass walls. And yet, I have a choice (perhaps not about living there, because I doubt that I could afford it) but as to whether I think the abstract beauty of the design is sufficiently great to excuse its faults. Certainly, I do not think it is part of a "social threat of regimentation and total control," as you apparently consider it.

I believe that a great many things will happen design-wise in the United States in the next half-century. There will be further industrialization of the building industry, particularly as it concerns itself with the small house problem. We will find many more ways to introduce gaiety and comfort and warmth into our architecture. We will take advantage of the timely sense of scale and the delicacy of detailing that the "Internationalists" have taught us at such great price to some few clients. We will want to use to the fullest the technical knowledge of materials and climate control that have been carried so far forward in recent years. We will want to absorb and adapt all the sociological behavior studies that are being made available. Out of all this will come, I agree, an architecture for the Next America. In the meantime, let's not kick overboard the enthusiastic pioneers of a stage of development, in favor of an immediate personal definition of "comfort and performance and beauty." In the case of at least two of those criteria (comfort and beauty) my definition, and yours, and that of some of the readers of *House Beautiful*, might be quite different.

Sincerely yours,

Thomas H. Creighton

where these

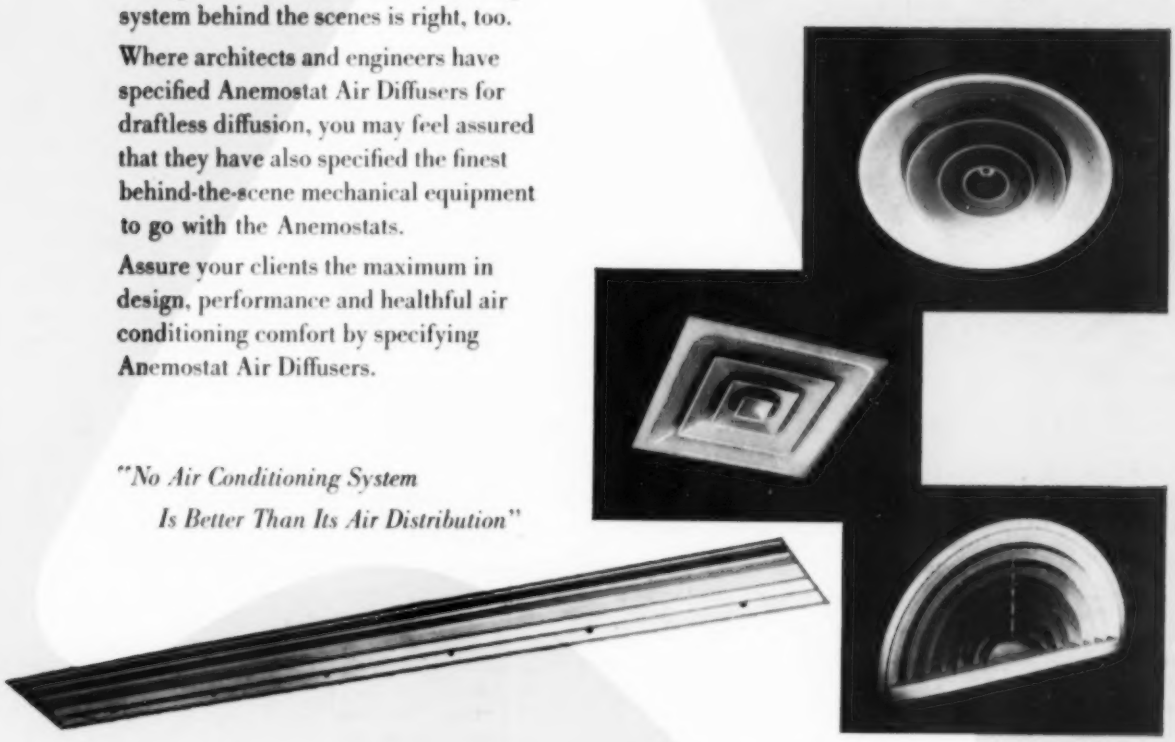
are in sight
the system is right

Wherever you see Anemostat Air Diffusers, it's a good bet that the air conditioning system behind the scenes is right, too.

Where architects and engineers have specified Anemostat Air Diffusers for draftless diffusion, you may feel assured that they have also specified the finest behind-the-scene mechanical equipment to go with the Anemostats.

Assure your clients the maximum in design, performance and healthful air conditioning comfort by specifying Anemostat Air Diffusers.

"No Air Conditioning System
Is Better Than Its Air Distribution"



ANEMOSTAT®

DRAFTLESS *Aspirating* AIR DIFFUSERS

ANEMOSTAT CORPORATION OF AMERICA

10 EAST 39th STREET, NEW YORK 16, N. Y.

REPRESENTATIVES IN PRINCIPAL CITIES

rancis Hospital, Lynwood,
e, Calif., Struc. Engr.—E.
K. Thomas & Theo. Beyer,
crete supplied by Consol
Los Angeles.

Lantana, Fla. Archt. & Eng.
ile, Archt. (Assoc.) Chas. K.
onstr. Co., Palm Beach, Fla.
d by Burnup & Sims, W. Palm

St. Francis Cabrini Hospital, Alexandria, La. Archt.—Goleman & Rolfe, Houston, Texas; Contr.—Lionel F. Favret, New Orleans, La.

U. S. Veterans' Hospital, Dearborn, Michigan. Archt.—Plans by U. S. Government, Veterans' Administration. Contr.—F. H. McGraw Construction Company, New York City. Pozzolith Ready-Mixed Concrete supplied by F. J. Knight Co., Centerline, Mich.

POZZOLITH CONCRETE
In Nation's Outstanding Hospitals

These four leading hospitals are representative of the many important structures of all types which have been built with Pozzolith Concrete during the past twenty years.

Pozzolith's wide acceptance and use result from the fact that it produces the following combination of benefits — *at lower cost than by any other means.*

1. MINIMIZED SEGREGATION — *for better appearance*
2. REDUCED SHRINKAGE — *for less cracking*
3. LOWER PERMEABILITY — *for less "waterproofing" expense*
4. INCREASED BOND-TO-STEEL — *for better construction*
5. GREATER DURABILITY — *for longer life concrete*

Only Pozzolith produces all these benefits because only Pozzolith disperses cement, reduces water and entrains the *optimum* amount of air.

Full information on Pozzolith and "see-for-yourself" demonstration kit supplied on request . . . without cost or obligation.

the MASTER BUILDERS Co

CLEVELAND 3, OHIO — Subsidiary of American-Marietta Company — TORONTO, ONTARIO